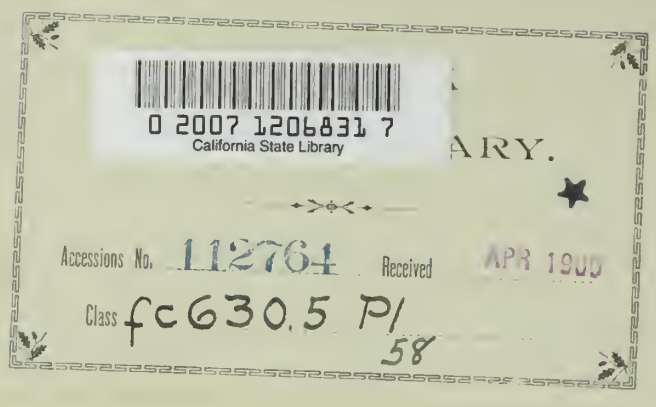

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THE
PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 1. SAN FRANCISCO, SATURDAY, JULY 1, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Revival of the Wool Interest.

This is a subject which seems to us of the greatest interest and we recur to it even at the cost of weariness to some readers. We are jealous of the repute of California in the wool product and it rather hurts to bow to other States when California has natural resources in land and climate which can be utilized to multiply her present wool output. We are aware that grazing is one of the primitive agricultural arts and that some congratulation is indulged in over the fact that California has gone along to higher phases of agricultural development. This is all right. We would not have less of that, but we think more of the other is not necessarily in conflict with it. We have great unproductive areas, not the free grazing of old times, but land which could be commanded for this purposes at low rates and which could be made profitable under a more advanced style of sheep farming rather than by the ranging plan. Now that we are learning how to get water so cheaply almost everywhere, vast tracts of land should be made to produce irrigated crops of forage and wool of the finest quality would be their marketable form. If California does not advance her wool product under the present inducements we shall be sadly disappointed.

The account of Montana wool growing on another page of this issue of the PACIFIC RURAL PRESS should be read with interest. Aside from the interesting figures given there of results attained, it is possible to read between the lines that the State of Montana appreciates her wool interest and takes earnest steps to advance it. Protective measures are adopted and the industry is in a commanding position. In this State it is quite different. There is too much disposition to condemn the sheep and belittle the flock owner. He is held up as a forest destroyer and almost an outlaw in several other counts. It is possible, we believe, to regulate the business so that the sheep may be a benefit in some respects in which they are now held to be an injury. This can be accomplished by treating the subject rationally and with due regard to its importance to the State.

The engravings are related to the wool industry of Montana. The flock shown is in winter quarters in the Yellowstone region and is from Prof. Whitney's recent pamphlet upon soil studies in that part of the country to which we recently alluded at length. These are the animals which are bringing agricultural wealth to Montana as a complement to the wealth production of her mines. The irrigation picture is across a State line, but is in the same region of the country, and it shows the beginnings of irrigation enterprise in the State of Wyoming. It is from the report of Prof. Ellwood Mead, State Engineer of Wyoming, and is not only picturesque but may be ere long of historic interest if irrigation construction in Wyoming should proceed upon the higher lines which are now being traced in the public mind. In Wyoming, as well as Montana, the sheep man is treated with consideration and respect. The State land is leased with good increase in the income of the State. Security and stability has been given to the industry by public designation of lambing grounds when applied for. Land is leased in small tracts, the average being much less than 1000 acres. Careful inquiry was recently made to ascertain whether those ranging on public lands would prefer to lease them and 393 were in favor of leasing and thirty-five against, or eight to one in favor of lawfully using the land. Storage reservoirs for irrigation water are favored and a sound business policy is approved. This is not in accordance with the popular conception of a sheep man, but who knows but what they might be very respectable people, even in California, if they were treated respectably.



HEADGATE AND DAM IN A WYOMING RIVER.



SHEEP IN WINTER QUARTERS IN THE YELLOWSTONE REGION OF MONTANA.

THE Stockton *Mail* says that M. P. Stein & Co. have received an order for apricot pits which are to be shipped to Europe, where they are used in the manufacture of liqueurs.

PACIFIC RURAL PRESS.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, July 1, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Before another issue of the PACIFIC RURAL PRESS sees the light, the great Fourth of July will have come and gone. Evidently we must place our patriotism on record here and now. There is a rise of patriotic fervor this year such as the country has not seen for a generation. Last year the feeling was also high, but the grand crash at Santiago came later. This year the Spanish war has passed into history; the Ministers of the two countries have resumed their places respectively at Washington and Madrid, and the two warring countries have arrived at a peace policy by a most expeditious route. It is a good thing to celebrate this year the victories of advanced ideas, the stability of our country during another great storm, the auguries for the future based upon a past which each year becomes more glorious. California towns have embarked upon celebrations to an extent unknown before, and more local Venuses have risen from social foam to pose as goddesses of liberty than ever before. Surely there is to be a grand time everywhere next Tuesday, and if the orators do not seize the opportunity to press home upon the public mind the weighty lessons of the time, they will prove unworthy of their high calling. But, even if they fail, the small boy will hit the mark—bang!

Patriotism and recreation are not conducive to traffic, and the markets have rather a listless spirit. Shippers have taken four ships this week for wheat and one for barley, which looks promising. Spot wheat is steady and barley receipts being small that grain has more force. Oats are few and wants fewer. Feedstuffs are weak and hay is playing a waiting game, with small sales for present use. Meats are unchanged except that hogs have recovered what they lost last week. Butter and eggs are slow, with choice lots only holding their own. The same is true of poultry in the presence of large shipments from the East—both feathered and iced. Dried apricots arrive in small lots and sell at 9½@10c. Local sales of 'cots to canners are reported up to $55 per ton, with fine Bartlett pears at $45@50, and perhaps $55. Main crops of shipping and canning fruits are said to be mostly bought. Beans are in a little better shape, except Limas. Potatoes are shading, but are still quotable at 1½@2c. Onions are weaker. String beans and green peas are rising. Wool is strong and most of the clip sold.

Trees and Waters.

These are delightful midsummer themes and could be expatiated upon to any length in poetic vein if one had the vein to drift in. But they are also themes that can be approached by other routes and it is important to note that the movement along these routes is very energetic and businesslike even if it is midsummer. There is evidently going to be something done in the preservation of the forests and protection of the perennial springs of the mountains from this time onward.

In the first place there is to be an active forest and water propaganda undertaken. A few days ago there was a rally in this city for the purpose of giving a clear pointer to the scribes of the rural newspapers and quite an assembly of the tripodians of the agricultural and mining districts was addressed by those distinguished Nestors, Prof. Davidson and W. H. Mills. The interior journalists were urged to employ their editorial columns in interesting the people of California in the great undertaking of securing to this State abundant water for irrigation and power. It is believed that as soon as the people shall have been made generally acquainted with the nature of the plan, then a great public convention will be called to devise ways and means for accomplishing the result through the necessary legislative acts and appropriations and otherwise. It will cost millions of dollars, we are told, but it will mean enormous benefits to the entire State. These promoters declare that if a community can, with advantage to itself, control its public utilities, a State can also. The idea is to have California build reservoirs while she can secure the best available places, and not wait until private corporations shall have got control of the situation.

This is the first note of the campaign. Others will quickly follow. President Abbot Kinney of the Southern California Forest & Water Society sends us notice that the next annual meeting of the American Forestry Association will be held in the city of Los Angeles, Cal., on July 19th and 20th, 1899. Fortunately, during the preceding week—July 11th to 14th—the National Educational Association will hold its annual gathering at the same place, and the greatly reduced rates secured by that body will be available for those desiring to attend the Forestry Convention. James Wilson, Secretary of Agriculture, expects to attend this meeting, as he is deeply interested in forestry as in other matters in his portfolio, and the meeting will be memorable on various other accounts. California has always figured prominently in the councils of the American Forestry Association. Wm. Alvord of this city has served as its president and many have held memberships. It will give the local forest fervor several degrees higher temperature to have this national meeting within the confines of the State.

The general proposition of reservations for storage reservoirs and the construction of the same by the general Government is constantly gaining strength. In the PACIFIC RURAL PRESS of June 10th we had a report of the Transmississippi Congress at Wichita, Kansas, which, it seems, did not give the victory of the delegates of the Irrigation Congress, led by George H. Maxwell, with sufficient emphasis. We have since learned that the press report which went out from Wichita after the adjournment of the Congress to the effect that there had been a divergence between the Irrigation Congress and the Transmississippi Congress as to the irrigation policy and that the result of the Transmississippi Congress was in the nature of a compromise, was utterly erroneous. The fact was that the resolutions adopted by the Transmississippi Congress were an absolute and unqualified endorsement of the policy and resolutions of the National Irrigation Congress which were introduced in the Transmississippi Congress by Mr. Maxwell for and in behalf of the members of the Irrigation Congress, who were at Wichita representing that organization.

Those who were at Wichita who were identified with the Irrigation Congress movement felt that the result of the deliberations of the Transmississippi Congress was more than favorable to the policy advocated by the Irrigation Congress, which is that the Federal Government should build storage reservoirs as a part of its established policy of river and harbor improvements, and that a fund for the building of irrigation works by the States should be provided through the leasing of the grazing lands by the States without cession, and that no lands should be ceded to the States except upon conditions so strict as to absolutely insure the settlement of the land in small tracts by actual settlers and guarantee against the monopoly of the public lands in large tracts in private ownership.

All these matters, the exhortation of the rural editors, the convention at Los Angeles, the truer statement of the attitude of the Congress at Wichita, tend toward the same end, to-wit: the revival and extension of forestry and irrigation interests on broad lines in this State. There are other influences also calculated to add impulse in the same direction. The convention of Representatives of Agricultural Colleges and Experiment Stations, which will assemble in this city on Wednesday of next week, will bring forestry and irrigation experts and advocates from all parts of the country, and after their view of the State many of them will no doubt attend the Los Angeles convention. It will be well for Californians to come into contact with these distinguished visitors in all possible ways and we hope that much interest will be taken in the local excursions which will be made. Extend the most cordial greeting and most generous hospitality and get warmed by the touch of the workers in other fields. The result will be the greater earnestness in the proportion of undertakings which will clearly make for the advancement of California and the property of her people.

Peach Blossoms and Prophecy.

In your issue of 17th you copy an article from the PACIFIC RURAL PRESS, credited to the theories of J. T. Bogue of Marysville, about the effects of frost on peach blossoms, stating the effect of frost is less severe on small peach flowers than it is on such varieties which produce a large flower. The varieties mentioned are as follows: Small bloom—Muir, Salway, Philips Cling, Late Crawfords, all of which the writer grows, and the statement made is not a fact, according to the observation and experience of the writer. Medium bloom is designated by the varieties: Early Crawford and Susquehanna; late bloom comes on the list as McKevitt (meaning McDevitt), Allbright, Tuskena (meaning Tuscon), and Elberta. In the entire article credited to Mr. J. T. Bogue, whom the writer knows to be an intelligent fruit grower, it is hard to believe he would make a statement of so much foolishness about peach growing as the one quoted from.—Major Berry, in Visalia Times.

It is a pity that Mr. Bogue cannot ask fruit growers what they think about what seems to him a fact, without being charged with foolishness. Major Berry should have been content with stating that his observation did not agree with Mr. Bogue's. He, of course, knows that the PACIFIC RURAL PRESS would not credit Mr. Bogue with any statement he did not make: we have something of a record for carefulness in this regard.

As for the names of varieties commented upon by Major Berry: When we wrote McKevitt we did not mean McDevitt. The McKevitt is a well known white cling and the McDevitt is a yellow cling, and one does not mean the other. Tuskena is the proper name of the peach commonly grown as Tuscan and Tustin. There is a Yellow Tuscany cling which is a very different peach, and readers who see it favorably reported from southern California must not conclude that it is the variety which they may have under a similar name.

REFERRING again to the sheep topic, which seems to prevail in this week's RURAL, we have just received a consular report which shows that havoc has been played with Australia's chief industry by the succession of droughts of the last few years. A few years ago New South Wales had nearly one-eighth of the sheep of the globe, and in value her annual wool crop exceeded all her other products combined. Now her proportion of the world's sheep is about one-thirteenth. She had in 1891 nearly 62,000,000 and now has 40,000,000 sheep.

QUERIES AND REPLIES.

Persecuted Cow.

To the Editor:—My cow is tormented with flies. Can you give me some receipt to prevent it?—J. T. C. Murphy, San Jose.

This is presumably the horn fly mentioned in earlier issues. Fish oil with a little sulphur or carbolic acid added will keep the flies away for five or six days, while with a small proportion of carbolic acid it will have a healing effect upon sores which may have formed. Train oil, or fish oil, seems to be more lasting in its effects than any other of the substances used in some experiments used by the late Dr. Riley. But, as stated, the oil treatments lose their efficacy in a few days, and especially in our dusty summer the doping with oil makes the animal a sorry object. A few head can be very successfully protected from the pest by making blankets or covers of burlaps, tying around the horns, neck, belly and thighs, making the cover large enough to well envelop the animal. This might be too great an undertaking for a large herd, but the family cows can be kept in comfort in this way, and the gain in milk will amply pay for the cost. The egg of the horn fly is deposited in the droppings. The most certain means of destruction is to kill the flies in the early stage. This can be accomplished by throwing a shovelful of lime upon each dropping made by the stock. They will be found most common in shady places that the cattle frequent, and, by treating them in this way once in two or three days, while the dung is yet fresh, the fly will be destroyed in large numbers while still in its infancy.

Fumes and Fruit Trees.

To the Editor:—A short distance from our orchard some parties have started to roast sulphurets from gold quartz, to prepare them for cyanide. This was two months ago. Now my peach trees are losing their foliage and the fruit is shriveling. I think the dense smoke from the furnace, containing injurious substance, is killing the trees. They have plenty of water. Could you kindly inform me if I could stop them, or if anything could be done to save the trees?—Reader.

Probably nothing could be done to save the trees except the removal of the cause of the trouble by closing down the works. This question has arisen in different parts of the State, but we are unaware that the issue has ever been urged at law. In the cases where the most marked injury has been done it has been concluded that on the whole the closing of the works would do the locality more injury than the loss of the trees, and for this reason the objection has been withdrawn. At least the cases most loudly proclaimed have quieted down—we presume for this reason.

The Oak Worm.

To the Editor:—Our beautiful live oak trees have been shorn of their foliage by a yellowish brown worm about 1½ inches long. The trees looked as if dead for a time, but as new leaves begin to brighten them up millions of moths or millers are fluttering among the branches, and we are wondering what the result will be if we are to have two or three more generations of the worms this year. The worms on leaving the trees fasten themselves on the under side of lumber, pieces of wood, stone, paper, old sacking, or anything that will give shelter. They are on the inside walls and roofs of outbuildings, and we even have to look sharply at our spade or other tool handles or stain our hands with worm juice—in fact, worms almost everywhere. We know of no way of combating such a pest, so will trust to Providence for results.—O. N. Cadwell, Carpinteria.

This is the insect which we mentioned recently as sent in by a reader in Sonoma county. We are very sorry to hear it has proceeded down the coast as far as Santa Barbara. The worm is the larva of the moth *Phryganidea Californica*. It is native to the State and has worked on the oaks from time immemorial. Presumably, therefore, it will not kill the trees, though it does give them a distressful look. The pest is much subject to parasites which keep it in check, though it sometimes becomes very abundant. The worms can be killed by spraying the oaks with Paris green, one pound to 200 gallons of water, or some reduction can be made by killing the chrysalids which attach themselves to the trunk of the tree and to other objects, as Mr. Cadwell describes. There are, unfortunately, two or more broods in the season, and your trees may catch it even worse later in the year. About the only consolation one can get is the fact that the oaks have been struggling with this pest for hundreds of years—perhaps thousands, in fact—and we still have oaks.

Two Birds With One Stone.

To the Editor:—I think the California black walnut the very best roadside tree, and the Pacific Rural Press the very best paper.—E. B. Rhodes, Winters.

Tomato Blight.

To the Editor:—I mail you a portion of a tomato plant which has died from some cause unknown. A great many plants in and around Modesto have died the same way. They grow thrifty until they begin to blossom and get older, then they wither and die suddenly. I had about twenty plants in my yard that have died. The sample that I send came from a yard in the farther part of town.—Gardener, Modesto, Cal.

The dropping off of tomato plants in the way you describe is believed to be due to a bacterial blight. As the germs are in the circulation of the plant, and not upon the surface, no application can avail. The infection is known to be carried from one plant to another by insects which carry the juice on their beaks or mandibles. If insects are not present the disease travels very slowly and it can be largely checked by complete burning—top and root—of the plants which are killed by it. There are other blights, but they are clearly seen by discoloration of the leaves. This one is quick-wilting, without other signs of disease.

Cherry Aphis on Nursery Stock.

To the Editor:—I send you by this mail an insect which I have been unable to kill so far. I have a small stock of imported French nursery seedlings, and the cherry seedlings have been troubled in spots by this insect. I tried wood ashes, then sulphur, but neither seems effective, as they still seem to be increasing. Can you tell me how to clean them off without injury to the cherry stocks?—Nurseryman, San Jose.

You have the common cherry aphis, or louse. As soon as they appeared you ought to have dosed them with kerosene emulsion and prevented their increase. As it now stands, they are being rapidly reduced by their natural enemies. On the few twigs you send there are several syrphus fly larvæ and ladybirds, as well, and they are all eating the lice, which will soon be used up in this way. When the aphis first appears it has its own way for a while and then does much injury to the young leaves, and that is the time to kill them off with a spray.

Waxy Execretion on Twigs.

To the Editor:—I send you some small sticks in this same mail, under another cover, cut from a tree that leaves have all fallen off one side. Is the whitish substance on the bark an effect or a cause?—O. L. Livesey, Manzana.

This is a very thin, whitish, semi-opaque deposit of a waxy character over wide areas of the bark. It is not an organized affair nor has it relation to any disease, so far as we can see. We take it to be the residuum from excessive evaporation, but that is of course little more than a surmise. We have often seen it, though in less degree than in this specimen, and always in a hot dry region. Whatever it may be it seems clearly a result and not a cause.

A Smut Machine.

To the Editor:—You will greatly favor your enquirer, and probably many other wheat-growing readers of your valuable journal, if you will explain the method in use to clean smut from wheat, which this year seems to be more plentiful than usual. Can appliances be purchased which may be used stationary or on a harvester cleaner successfully, and at what cost?—H. D. Owen, Bruceville.

We are not aware that smut machines have been used in this State in connection with portable cleaners nor can we find, on inquiry, such a machine in San Francisco. Smut machines are commonly used in mills as stationary parts of their outfits. Perhaps some reader can speak of the availability of portable appliances for this work.

Woolly Aphis Eaters.

To the Editor:—Can you tell me where I can get insects which are destructive of the woolly aphis?—Apple Grower, San Francisco.

Common ladybirds eat the woolly aphis very freely when it is on the twigs and branches, but no insect has yet been found to wage effective warfare upon the woolly aphis on the roots, and it is there that it does most injury. Refuse tobacco, in the form of dust, to be had from cigar makers, is a good dose for the root type of this insect. Dig away the ground around the base of the tree, put in two or three pounds of tobacco dust, and cover again. The beginning of the rainy season is the best time for this. Dr. S. M. Mouser of this city, who has an orchard across the bay, has succeeded in killing the woolly aphis by drenching the root crown with quassia tea, using one pound of quassia to four gallons of water, but probably the tobacco treatment would be cheaper.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending June 26, 1899.

Alexander McAdie, Forecast Official and Station Director.

The average temperature for the week has been slightly below the normal, with cloudy or partly cloudy weather for several days, and fog in some sections. Light showers occurred Saturday in the coast and bay section, the Sacramento valley and in the northern portion of the San Joaquin; haying was interfered with to some extent, but the damage was very light, while grain and fruit escaped material injury. Grain harvest is progressing rapidly, and in most sections the quality and yield are far above expectations; wheat especially will be a very heavy crop, except in sections affected by the drouth, principally in the extreme south. Hay has proved a good crop in nearly all sections. Deciduous fruits are ripening rapidly, and with the exception of apricots and prunes the yield promises to be above the average; peaches are of excellent quality, and the crop is heavy. Grapes continue thrifty, with the prospect of at least an average crop. Corn, potatoes and beans are growing satisfactorily. Discouraging reports are received as to the condition of sugar beets in the south. Citrus fruits in the Sacramento valley were somewhat injured by hot northwest winds. Walnuts are in good condition.

Sacramento Valley.

Fruit.—Hot, northwest winds have caused navel oranges to drop in some orchards, and the crop will be lighter than anticipated. Olives are looking well. Fruit not damaged by light rain. Bartlett pears are ripening.

Grain.—Harvest is in progress. In some places the grain was slightly damaged by recent hot weather, and where lodged rust has appeared, yet the yield is better than expected and quality good.

Hay.—The crop is all harvested; the yield is above the average, and the quality is excellent.

Minor Crops.—Hops are doing well and the yield will be large.

Coast and Bay Sections.

Fruit.—Peaches are ripening in all sections; the yield is unusually heavy and quality excellent. Apples have been slightly damaged in some orchards by codlin moth Grape vines are in fine condition, but the crop will probably fall below the average. Pears will yield well; prunes and apricots light. Fruits not injured by light rain on the 24th.

Grain.—The weather has been favorable during the week, and wheat and barley have ripened rapidly. Harvest is progressing. The yield and quality are above the average.

Minor Crops.—Corn and sugar beets were benefited by favorable weather and are growing rapidly. Haying is completed; the yield is far above the average and quality excellent.

San Joaquin Valley.

Fruit.—Grapes are doing well and promise a good crop. Apricots and peaches are being marketed, and canning is in progress. Light rains on the 24th caused no damage.

Grain.—Harvest is in progress. Reports from the large grain belts show that the yield and quality are up to expectations, and very satisfactory. In some sections the yield of wheat is much larger than anticipated.

Hay.—The first crop has been harvested, and in some sections the second crop of alfalfa is now being cut. Irrigation water plentiful.

Southern California.

Fruit.—Conditions during the week were favorable for deciduous fruits. Apricots and berries are ripening rapidly. In some sections apples are looking well and will yield a fair crop. Lemons are coming to market in Santa Barbara county; the yield is heavy.

Grain.—In the extreme south the wheat crop is a failure and barley very light; in other sections a fair crop will be harvested.

Hay.—The yield is proving better than had been estimated. Baling is progressing.

Minor Crops.—Walnuts are thriving and promise a fair crop. Corn, beans and potatoes are doing well. Beets are in an unsatisfactory condition.

Eureka Summary.—Rain latter part of the week materially improved condition of grain, pasturage and crops generally. The outlook for fruit continues good. Some grass hay has been cut.

Los Angeles Summary.—Warm in the early part of the week and cool in the latter part with night fogs, favorable for summer crops. Harvest is in progress. Barley crop is large in some sections. Apricot drying has commenced, and will be general next week. Celery planting has begun.

The following data for the week ending 5 A. M. Wednesday, June 29, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week	Maximum Temperature for the Week.....
Eureka	.42	35.14	35 12	43.98	46	60
Red Bluff	.16	26.62	15 13	26.20	56	98
Sacramento	04	15.04	10 51	20.54	52	96
San Francisco	T	16.87	9 38	23.23	50	74
Fresno	.00	7.69	4 95	9.17	54	100
Independence	....	....	....	....	....	....
San Luis Obispo	.00	17 38	7.20	17.76	48	90
Los Angeles	.00	5 51	7.06	17.39	54	80
San Diego	.00	5.23	4.99	10.06	54	70
Yuma	.00	1.34	1.63	3.00	18	104

THE ORNITHOLOGIST.

Good and Bad Birds.

By J. F. ILLINGSWORTH of Ontario at the Pomona Farmers' Club.

It is pretty well understood among fruit men that birds form an important factor in agriculture, but there has always been too general a feeling that they are harmful, rather than beneficial. There is no class of the animal kingdom that is of greater assistance to the rancher. The value of birds in almost every case depends upon the food they take. They are the chief enemies of the horde of insects and vermin which would take our ranches if unrestricted. How important, then, that we should protect these, our greatest friends.

How to Look at Birds.—A great deal of unjust feeling against our birds is brought about by unscientific observations of their habits in the field. Some one sees a flock of tanagers eating his fruit, and because their color resembles that of the oriole, the latter, great friends of horticulture, receive the blame and are shot whenever seen in the orchard. I have known this to happen in several places, and I believe that it is time that every fruit man learns to distinguish carefully between those that are friends and those that are enemies. Do not kill a friend because nature gave him a coat resembling that of an enemy.

There are other points besides color that distinguish all species of birds, the chief among them being the bill. Birds of far separated species may closely resemble each other in coloration, but when we look at the bills, how different they are. The bill of the bird has to serve him in procuring his food and to prepare it for swallowing. It takes the place of hands. So, as we would naturally expect, the bill shows great differentiation, and forms an important part in classification.

How a Mistake Was Made.—Field observations of a bird's food can not always be trusted, even though made by the most careful observer. We may think a bird is doing harm when he is looking after our best interests. To illustrate this. I was watching a pair of tyrant flycatchers—or as they are commonly called, bee birds. They would fly from time to time directly in front of the hive and catch some insect in the air. The natural supposition was that they were feeding on the bees, so I got my gun and shot one of them, just after he had caught an insect, and upon dissection I found in his throat a robber fly, and his stomach contained another together with a drone bee. As is well known, the robber flies are very destructive to bees, catching them as they come from the hive. In looking up the government report upon these flycatchers, I find that my experience was much the same as they found by the examination of several hundred stomachs. So let us be exceedingly slow in passing judgment upon any bird.

Chiefly Good.—We may find that a species is harmful for a short period of the year, but at other seasons they are beneficial. Birds are usually able to adapt themselves pretty well to their environment. They will eat the kind of food that is most abundant at the season. Thus, birds that live on seeds, often submit entirely upon an insect diet when these pests are unusually abundant for a time; and the same may be said in regard to fruit. If more plentiful than any other food, it will be found that all the smaller birds will eat more or less for a time. Even the flycatchers sometimes eat a few blackberries.

The Department of Agriculture is doing a great work in their investigation of the food habits of birds, and their reports from time to time are fast removing the prejudices against some of our most beneficial species. Their Bulletin No. 3, on the hawks and owls of the United States, has gone out all over the country as a good missionary, and is accomplishing a good work. This whole family of birds, consisting of seventy-three species and subspecies, has been on the blacklist of the human family only because a half dozen species have ruined their character by eating poultry and other birds. This cannibalistic habit is found not to be at all general in the family. So we must learn to recognize the innocent ones and protect them.

The Owls.—Although there are many birds in this family of great value to the agriculturist, which are found in our land, I here can only speak of those I consider the greatest assistant the fruit man has. That is the barn owl. This bird is found, more or less, throughout the United States, but is especially abundant in the warmer portions. In California it is the most common owl. From the peculiar form of the feathers about the face it is often known as monkey-faced owl. This name is the common appellation for the bird in Florida where there is more or less superstition regarding it. In southern California the owl lives exclusively upon pocket gophers, I watched near the nest of seven hungry young owls one evening, and eleven gophers were brought within an hour. The next morning several dead gophers were laying about the nest, the young birds having gorged themselves. One can only appreciate the vast amount of good the owls do after seeing a nest where the young have been reared; on either side are piles of cast-up pellets, consisting of the indigestible bones and hair. Each of these pellets contained the skull of a gopher, substantial evidence of their value to us.

These owls, as we would infer from their names, would gladly make their homes in our barns; but what is the general reception we give them? They have learned to fear man, and now use hollow trees or holes in a bank for their nesting place. They would very quickly return to the buildings if a treaty of peace and protection was enforced throughout the country. Birds are quick to see what our attitude is toward them, and I think we owe it to our own interest to see that the laws are enforced regarding the destruction of these birds or their nests.

Blackbirds.—I have been especially interested this spring in our blackbirds, both the red-shouldered and the Brewer's. Both species have had a great deal of unjust feeling toward them, and the Department is now working up a report that promises to help them as much as their report has done for the hawks and owls. The red-shouldered blackbird is fond of marshy places, and so during the last few years has gradually disappeared from this part of the country. The Brewer's blackbird, named after Dr. Brewer of Boston, is by far our most common species. Early in the morning we see them actively searching for their breakfast in the gardens and orchards. I've killed a number of these species this spring for the Department, and have never failed to find from one to five worms in their stomach. These, as is well known, are caterpillars of the night moths, and do vast damage to vegetation whenever not held in check by such friends as the blackbirds. When we consider what flocks there are of this species, we begin to realize what an important factor they are in the destruction of the cutworms, as well as other injurious insects.

Woodpeckers.—The woodpeckers are another order of birds whose good intentions are usually misunderstood by horticulturists. There seems to be a general feeling that all these birds are injuring the trees on which they are working. In the apple orchards in the mountains I have known the woodpecker to be killed off regardless of species, when they were only following out the best interest to the orchardist.

In southern California we have nine or ten different species of this order. Only two or three are seen in the valleys, however. The most common species, and one that everyone knows, is the Red-shafted Flicker. This is the largest and one of the most beneficial of our woodpeckers. Their food is largely made up of ants and insects from trees. Another, but smaller, species is the Nuttall, named after Naturalist Thomas Nuttall. This species is very active and restless, darting from tree to tree in search of "borers," which are the larva of beetles, and spend their early life in digging tunnels through the trunks of the trees, greatly to the damage of the latter. I have seen this little woodpecker on the side of an apple tree intently listening to the borer within. When the grub was exactly located, the bird chiseled a small hole through the bark and pulled him out. It would have been impossible to have located the bug from the external appearance of the bark, but the bird's sense of hearing is so keen that it listens for the knawing sound of the insect's jaws.

The Sapsucker. — The red-headed sapsucker is the only one of the woodpeckers here that can be said to do any harm, and from the government reports, even they have redeeming qualities. It is this species that make the rings of holes around trees. These holes are made partly for the sap, but also for the inner bark, which is eaten when taken out. It is very seldom, however, that the loss of sap is of material damage to the tree. The bird's food also consists of ants and other insects harmful to the trees. The idea is prevalent that all the smaller woodpeckers seen in the orchards are sapsuckers. This, of course, is far from true, as proved by extensive and careful observation.

The Tanager.—Among our fruit-eating birds the beautiful crimson-headed tanager is probably the worst. He certainly is a pest during the cherry season. Some orchardists keep a man with a gun in the orchard while the cherries are ripening, but even then lose considerable fruit. I do not believe that the tanager bothers other fruit to any extent, inasmuch as they return to the mountains to breed soon after the cherry season. This same bird feeds largely upon insects at other seasons, and it is only following out the law spoken of in the beginning, that a bird usually feeds upon the food most abundant at the season.

The Grosbeak.—The black-headed grosbeak is also quite a lover of early fruit, but his insectivorous habits during the breeding season, I believe, entirely redeems his character. While nesting the young are largely fed upon plant-eating beetles. I have seen the old bird with the young in the garden searching for insects, and it was a pleasant sight to see the relish with which the young received each beetle that the old bird found for them. I believe that they demand our protection, at least until we have more evidence against them.

Other Fruit Eaters.—The shining flysnapper, or plain opepla, is a migrant and comes here during the cherry season. He, like the others, is very fond of the fruit for a season, although he too is largely insectivorous. This bird may be seen flitting nervously among the trees, and can always be recognized by his very peculiar note.

These three species, the tanager, grosbeak and flysnapper, are the chief workers in the fruit. The cedar waxwing, which is the cherry bird of the East, has not been known to molest the crop on this coast, although they are found here in abundance at times.

Of the seed-eating birds we have a great number, chief among which are the sparrows and finches. All these birds do us great service by destroying seeds of noxious weeds.

THE APIARY.

How to Prepare Extracted Honey for the Market.

By FRED BROWN at the California Bee Keepers' Association in Hanford.

We will assume that the bees are gathering honey very fast, as this is the time in which the work is slighted if any, as at such times the honey is often extracted before it is ripe; and that being the case, the honey coming in fast is not allowed to ripen, and when it is put on the market it is not of a good, heavy body and the flavor is also not the best.

Extracting.—The honey should be at least three-quarters sealed, to insure a good state of ripeness, and even then it should not go into the cans without first going through the tank.

With the honey thus sealed, we will proceed to the apiary, as there is where the preparation for good marketable honey will begin. We will have a box with a tin bottom, to put the combs in when they are taken from the hive, the tin bottom will prevent there being any drip, which is a waste, that gathers dirt and will keep your extracting room in a muss; the appearance will not be tidy, and there is more liable to accumulate filth in the packing of the honey for the market.

After the honey is thus in the house and is uncapped and extracted by the extractor, it should be run through a separator. Allow the honey to run through the tank, or into a tank. And right here I wish to say that you cannot prepare honey properly without a tank.

Good Ripe Honey.—And further, I wish to say that I hope that the honey producers of this association will profit by the lesson taught us by the frult packers of this community—that it is important to commence right, so there will be no complaint with the honey, as there was with the fruit that has gone into the Eastern market (and by way of digression let me say, there was some very poorly prepared honey that the association placed upon the market last season). Some was very thin, some was very dirty, and was not in a merchantable condition when received by me, and when told to the parties thus offering it, I was met with the answer that if I did not want it there were others in town that would be glad to take it. Such honey, in order to make it marketable, had to be taken and dumped into a tank and allowed to settle before it was fit to sell at all.

So you will see the necessity of each one that packs honey to have a tank, as poor stuff should not be allowed to compete with good, clean honey. Furthermore, we should have pride enough to want to place only that grade of goods on the market that we know to be absolutely clean: such as would be inviting to a lover of sweets.

Honey Tanks.—The best style of a tank, to my notion, is one that is not too deep. The one that I use is 6 feet long by 3 feet wide and a depth of 30 inches. It will hold about 40 cwt. and is not very hard to get the honey into, as it is shallow, and another advantage is that it has a good evaporating surface.

One should, by all means, have the honey house so arranged that the honey from the extractor will run directy through the separator, thence to the tank without any handling whatever, and after a short time the honey can be drawn off and it will be absolutely clean and marketable.

In my honey house I keep the tank always full, drawing off about five cans at a time. In this way you always have a good pressure to draw from, and then as the honey evaporates it will settle to the bottom and the thinnest will be on the top, so you are always drawing off the heavy, thick honey.

Honey Cans.—When there is a call for a shipment the honey cans should be washed clean of all the dust or honey that has been scattered on top of the cans, as often is the case in filling.

In every instance the cases should be new and clean; new looking, so the general appearance will be attractive. Do not use oil cases by turning them to hide the marks, as it is not a first-class case, and not a very strong one after being once torn up and reconstructed.

Draw a sample of every grade and have the cases so marked to correspond with the sample, that there will be no difficulty in locating the different grades, as represented by the sample.

Filling.—I would recommend that the honey be

weighed in the cans, putting in just 60 pounds to the can: 120 pounds to the case. If this would work well, which it should, there would be no question about the tare, as it would be checked up at 120 pounds to the case, and nothing said about the tare. We tried this plan one season and got some in that way, and if I handle the honey for the association this season I will do all that I can to get the purchasers to accept the honey in this style.

The main point to be careful about is to see that the honey is drawn into the cans from a well-filled tank, and that it is well ripe, and that the proper sample has been taken from each lot. Keep the cans very clean on the outside as well as the inside and there will be little trouble about the unmarketable honey.

As a rule we in the valley have a good, heavy grade of honey, and with a little care we can build up a good demand for our produce, which will bring a ready market and a good figure.

SHEEP AND WOOL.

The Greatest Wool State of the Union.

Since California has receded from her old place at the head of wool-growing States, it is interesting to know something of the present queen State in the flock interest.

Montana has become the largest wool-growing State in the Union, and bids fair to retain that position in the future. Its flocks are increasing rapidly, and its ranch owners are giving constantly increasing attention to the conditions of successful production. The State has the most effective system of supervision and inspection which exists in the West, and increasing pains are taken to preserve the flocks from infection and to improve the preparation of the wool for the market. From the December report of the State Bureau of Industry, and the second annual report of the Board of Sheep Commissioners, the bulletin of the National Association of Wool Manufacturers obtains the following details of the present condition of the industry in Montana, which will prove of interest to our readers:

The very favorable report of one year ago, that showed an almost universal bill of health among Montana sheep, will be followed by disappointment in the fact tbat so many serious cases of scab have appeared during the past year, requiring heroic measures to successfully eradicate the infection. In every case where scab has appeared it has been traced to animals imported into the State from abroad or transported through the State. Neighboring States may think Montana unreasonably particular and severe in quarantining against them and refusing unrestricted ingress and transit for their flocks, but experience the last season is abundant reason for the caution now being exercised. Efforts to eradicate disease among Montana flocks were devoid of result so long as there was an open door to its introduction from outside the State.

In their annual report the State Board of Sheep Commissioners say the lamb crop was not as large this year as in many former years. The early rains were unfavorable for lambs, though beneficial for grass. These rains, which were unprecedented for this section, washed out the fleeces so that the average weight when sheared was below the average of former years. "We can confidently say that there was a fair increase in flocks after deducting all losses and sales." Continuing, the report says that the later and present market prices of wool have been disappointing, though opening sales were at fair prices, showing an advance of 2½ to 3 cents over the previous year. The mutton market has been exceptionally good, and the price inducement has resulted in a large sale of this class of sheep. The report says the increase of population will increase the demand for mutton, and sheep men will do well to heed this fact in paying more attentlon to raising mutton sheep. The hope and prospect for an improved wool market in the near future has had some restraining influence upon the disposition to sell in order to realize from the advanced price of sheep. New men both within and from without the State are entering the business to share in prospective profits.

The past year more than any previous one has witnessed a tendency on the part of sheep men to acquire title to and enclose their ranches. The cost of purchase, fencing and increase of taxes is partly recompensed by lessened risks of loss, greater security in range and food, and some reduction in the expense of herding.

The commissioners' report concludes by saying in part: "Against our healthy climate, rich natural grass and other advantages, we must count on higher wages prevailing in a mining State, enhanced cost of supplies and distance from markets. To make the most of our advantages and reduce to the minimum our disadvantages, affords an ample and fruitful field for cultivation. Commendable efforts have been made the past year to improve the grade of our sheep, and with better times we may well expect these efforts will become more general and productive of better results."

On the 1st of March, 1898, there were 2,967,901 sheep assessed in the State, the valuation per head being placed at $2.52, making the total valuation $7,450,848, and the levy from this amount that provides a fund for the sheep commission, will amount to $3,725.42, an increase of nearly $1400. There is now a balance in the sheep indemnity and inspection fund of $4581.13.

The sheep commission reports 3,146,868 sheep in the State, 79,277 as being brought into the State since 1st of March, 1898; the number of lambs docked since that date 1,217,057, and the number of lambs and sheep slaughtered or sold and shipped out of the State since March 1st, 583,320. The number of pelts sold since that period is placed at 450,296, the price ranging from 6 to 9¾ cents per pound. The number of pounds of wool for the season's clip is given as 22,916,608, and the highest and lowest prices received by the producer were 7½ and 20 cents, the lowest average price being 13.44 cents and the highest average 16.86 cents, with a net average of 15.38 cents.

The Clip.—Taking the average yield of 7.27 pounds per sheep, as determined from the returns of two-thirds of the counties, the total wool clip for the State this year is 22,877.720 pounds, yielding the sheep rancher about $3,500,000. As this estimate was made from returns representing over a third of the State, it can be taken as conservatively reliable. The average clip is shown to be heavier than the wool growers predicted during the earlier part of the growing season.

THE VETERINARIAN.

Stamping Out Tuberculosis.

Prof. Nocard, the renowned veterinarian, has drawn up for the information of stock breeders a concise set of rules showing how bovine tuberculosis may at very little cost be eradicated from any herd. The following is a translation of the rules in question, as published in the *Breeders' Gazette:*

1. In every place where any tuberculous animal has lived, all cattle there shall be submitted to the tuberculin test.

2. The animals found to be sound shall be immediately isolated from the diseased; a special cattle-shed shall be appropriated for them, new or thoroughly disinfected. For want of a special shed, the common shed might be divided into two compartments by means of a central partition reaching to the roof of the building. As far as possible, each compartment should have a separate entrance, utensils and attendants. If there is but one attendant, he ought to attend to the sound animals first, and then change his clothes and shoes after having cared for the others.

Animals bought outside shall not be introduced into the shed with sound animals without having previously submitted to the tuberculin test.

Calves of tuberculous cows may be put into the shed along with sound animals on the condition that they be separated from their mothers immediately after birth and nourished with boiled milk. Till the complete disappearance of the tuberculous animals, the herd of sound animals shall every year be submitted to the tuberculin test, as it is possible that some of these which have not reacted to the first test may already have been attacked by the germs of the malady without having, however, leisons capable of provoking reaction. The second test will indicate those animals before they have had time to become dangerous to their neighbors.

3. A minute chemical examination shall be made of those animals that have been shown to be tuberculous by reaction to the test and they shall be divided into two lots: (*a*) Those which show any symptom connected with tuberculosis (frequent coughing, expectoration, inflammation or hardening of the ganglions or teats, stethoscopic signs, etc.), should be prepared for the butcher in order to get rid of them at the best bargain possible as soon as possible. (*b*) Those which, on the contrary, do not show any exterior symptoms of the disease—and they are, fortunately, much the most numerous even in the sheds which are most seriously affected—it will not be necessary to slaughter at once, the majority of these animals only having lesions quite recent or limited or sometimes insignificant. They are scarcely dangerous from the point of view of contagion; they can be kept or employed for work or in the production of milk. The cows can be used for reproduction while they are young and in good condition. Their calves will remain sound, provided they are removed at once from the infected shed and nourished with boiled milk.

By these simple means cattle breeders can when they please easily, rapidly, among themselves, and without asking any aid from the State, disinfect their sheds and free themselves from the heavy tribute which they pay each year to tuberculosis.

THE POULTRY YARD.

Trapping Coyotes.

E. C. Baer of Santa Ana, gives the *California Cultivator* his experience in trapping coyotes, which is an interesting subject to many of our readers:

The Trap.—I made a coop by covering a frame 2 feet high, 3 feet wide by 4 feet in length with woven wire, having an opening at one end for a fowl to pass through. Selecting a spot a couple of hundred yards away from the premises and in the direction from which the animals approached, I placed an inverted box (with the top and one side removed) under a bush. In front of this box the coop was fastened securely, and a setting hen put in for bait. Two steel traps on either side of the coop were chained to a block of wood, which served as a weight to prevent the overturning of the box.

The traps were sunk partly in the earth, about 8 or 10 inches from the coop and covered with leaves. The fowl had the freedom of the coop and could retire into the box for shade or to roost. My idea was for Mr. Coyote to think he had come across a sitting hen, one therefore his lawful prize!

The coyote has a good deal of the detective in his makeup. If he finds a chicken away out from the house in a coop where it has no business to be, it doesn't look natural to him and he suspects fraud. However, it is all right for a hen to be sitting under a bush and to have a coop placed over her when found by her owner. This line of reasoning, I think, was followed in this case, for after a few nights the tracks began to show that the coyotes were investigating, and in a week I had the pleasure of finding the beast one morning with a "ball and chain" to his leg making slow progress through the weeds. Two were caught in this way and also the foot of a third.

Killing With a "Spring Gun."—A coyote came one night and took several cockerels out of a coop. Next day I put a box or crate which was used for hauling a hog and was about the length of a shot gun, under a peach tree in such a manner that the drooping branches partly concealed it. In this box I fastened the gun with the butt against one end and the muzzle pointed out of the open end. A small coop with the back removed was placed in front of the box and fastened to it by a strip on each side. The door or opening of the coop was about 12 inches wide by 16 inches high. The gun was trained to shoot through the coop and out of the door and, in case of missing the animal, the charge would enter the ground about 10 feet away.

A stick about the diameter of one's little finger, with each end notched to fit on nails driven one on each side of the door, served to set off the gun. A stout twine passed from this stick back through both coop and box to weights at the rear of the box. These weights were attached by other cords to the triggers of the gun. They pulled horizontally upon the stick across the door, but any pressure upwards or downward upon this stick would trip it from the nails and cause the weights to drop.

Just inside the door I fastened a sick chicken by its foot to a peg in the ground. It was directly in front of and under the muzzle of the gun, but in such a position it could not by its fluttering, strike the mechanism and discharge the gun.

This sort of trap did not look at all suspicious. The box containing the gun was partly hidden by the branches of the tree and the sleeping fowl in the coop reposed invitingly near the open door. The coyote had but to insert his nose, one snap and the fowl was his!

The second night there was an explosion behind the barn, which in the still night seemed to reverberate clear to the Sierra Madres, and the next morning there lay the largest coyote I ever saw, with a hole in his chest 3 inches in diameter. I cooked him for the chickens and they enjoyed him as much as he would them. It is much better to feed coyotes to the poultry than vice versa.

Poultry Experiments in Utah.

The Utah Experiment Station reports the second year's results of experiments with poultry. The objects of the experiments are stated as follows:

(1) The relative value of year-old hens and of pullets; (2) the effect of exercise; (3) the relative value of early and of late hatched pullets; (4) the yearly food cost per fowl; (5) the average yearly production of eggs per hen; (6) the weight of eggs from different breeds.

The bulletin, which may be had free on application to Luther Foster, Director Experiment Station, Logan, Utah, gives full details as to the manner of conducting the experiments, together with all the data, or summaries of them, collected during the year.

The following summarizes the results of the experiments. Some comparisons are made with the results of earlier trials:

1. During the year it cost an average of 64.3 cents per fowl for food for two pens of R. C. Brown Leg-

horn year-old hens. During their first year the cost was 61.7 cents per fowl.

2. As pullets they laid an average of 175 eggs per fowl during the year, worth $1.78; as year-olds they averaged 132.5 eggs worth $1.39½.

3. The average food cost per dozen of eggs was 4.3 cents during the first year and 6 cents the second year, or 40% in favor of the first year.

4. During the first year, as pullets, there was a profit of 188% on cost of food, and 118% profit as year-olds.

5. Further experiments are necessary to determine definitely the relative value of fowls for egg production at different ages.

6. The best egg record during the second year was made by a pen of Brown Leghorn pullets, hatched June 10th. They laid an average of 164.6 eggs per fowl, worth $1.78, at a food cost of 60.5 cents, equal to 4.4 cents per dozen. The per cent profit on food was 194. Two pens of April-hatched pullets averaged 159 eggs, making a profit of about 184% on food cost. The pen of late-hatched pullets was of a different strain from the others and was reared under different conditions and the results are not, therefore, to be accepted as proving anything as to the best time for hatching.

7. As to the effect of exercise, contradictory results were secured. During the first year of pens 3 and 4 it required 22% less food to produce a dozen of eggs with exercise than without it. During the second year of the same pens the results are decidedly in favor of the pen without the exercise. The test with pullets during the same year gives inconclusive results on the same question.

8. Exercise had little apparent effect on the weight of the fowl, that little being a slight increase in weight.

9. The eggs from the two pens without exercise averaged 4% heavier than those from the two exercised pens. This confirms results of the previous year.

10. The eggs from pens 3 and 4 weighed 3⅓% more during their second year than during their first.

11. The exercised hens consumed a trifle more than those without the exercise.

12. The eggs from the two pens of Light Brahmas weighed an average of 1.64 pounds per dozen; those from the five pens of Brown Leghorns averaged 1.46 pounds per dozen; or about 12% in favor of the former.

The conditions were not all favorable during the year for the highest egg production.

THE IRRIGATOR.

The Water Witch.

By T. S. Van Dyke at the University Farmers' Institute at Burbank.

There are other points on which you are already so well informed that I may better spend the rest of our limited time on the "water witch"—a subject that I have found of great interest to a great many people. Considerable money will be spent on it this year. I believe I know as much about it as any one, and that within the past ten years this ancient thing has gained hosts of believers. In the last twelve years I have tried thousands of experiments with it on all kinds of ground and carried it hundreds of miles in wagons, cars and on foot.

A Skeptic Convinced.—Like nearly all persons who have a profund respect for science and especially for the beautiful principles of hydraulics, I sneered at the water witch as a humbug until one of our most cautious and reliable engineers told me it was not, and showed me how to use it. Like everyone else I jumped at the theory of unconscious muscular motion. But as that itself was quite a curiosity I determined to run that down. A long series of experiments, among others trying it with children of ten or twelve years of age who had no idea of what I wanted of them, satisfied me that with about five persons out of ten the dip of the rod is real and not imaginary or due to muscular motion of any kind. Hundreds of trails over places where I knew there was an underground stream or a pipe convinced me that running water underground will affect it in the hands of about five out of ten persons and that in the other five nothing will produce any motion. I am still satisfied that water underground will do so, and on three different occasions on three different pieces of ground I have run within 3 feet of the marks made there before by some of the experts traveling about, and in whom so many have such confidence as to pay them good fees. I would not be afraid to take the contract to locate a pipe for miles blindfolded if water were moving in it and do it within a very few feet.

An Unfortunate Difficulty.—But how many of all the experts have tested it where they knew there was no water, or water at such a depth or in such small quantity as to be unavailable? I believe I am the only one. I have tried it hundreds of times on sharp, dry ridges where it was plain that there could be no water for 400 feet. Something moved it there as well as where I knew there was water. I mean moved it sometimes, for generally in such places there would be no motion. What it was I know not, but am quite certain that it was not water, oil or any liquid with still less probability of its being good of anything else of any value.

An Instance.—In a recent action for misrepresentation in the sale of a ranch I was sent by defendant's attorney to examine the ground and especially the water supply. It was a fine bench of rich land on the west side of the low range of dry porphyry, that runs through San Diego county from six to ten miles from the coast. The rainfall was only about 12 inches and the local watershed not large enough to furnish 10 miners' inches if one caught it. One well some 50 feet deep furnished about 6000 gallons a day, or about ½ inch. Two others 60 to 80 feet deep were dry and always had been. There was not a sign of damp ground or water vegetation of any kind on the watershed. The hill ran only some 200 feet above the bench and then dropped into a canyon some 400 feet lower, which rose into a range of granite hills almost as dry as the porphyry. I knew the whole country for twenty miles around, and there was no watershed that anyone could be justified in connecting with it except the small one on the porphyry hills of less than a hundred acres. On this a noted expert with the divining rod had located in a mall gulch 80 inches of water, in another some 200, and in another something near a 1000. I tried the rod over and over on the same places and found exactly the same indications as he did.

But I told the attorneys not to ask me a single question about the water supply of that ranch and advised them to keep that expert off the stand. After much consideration and debating they followed my advice.

What It Will Do.—With all my failings no one has ever accused me of being lazy when I try to study up any subject. I have tried my best to make practical use of the business of water development and hydraulic engineering. After a vast amount of experimenting and comparison of notes with others the only conclusions I can reach are these:

It does indicate flowing water underground but not above ground.

But it also indicates something else or else water so deep or in such a small quantity as to be of no use.

It takes a large amount of practice to keep from being deceived by it in any case.

It is always liable to mislead one greatly as to the underground stream. From these the only practical conclusions that I can draw are these:

Other Evidence Desirable.—If on other sufficient grounds it has been decided to bore a well or drive a tunnel for water on a certain piece of ground, then in locating the exact place to make such well or tunnel I should follow the instructions of the water witch in practical hands rather than locate it by guess. But if the question is whether to bore that well or make that tunnel there at all or not then I want to know considerable more. I want all other questions answered as satisfactorily as if there were no such things as the water witch. These are the principles I should follow in spending my own money. You had better consider them well for this be a great water witch year and many a dollar will be staked on its indications which the land owner can ill afford to lose.

THE SUGAR BEET.

American Beet Crop Estimate.

Willett & Gray of New York prepare a close estimate, based on their latest information received from the best sources, showing the acreage of sowings, tonnage of beets and output of sugar of the new crop. They allow for partial failures of inexperienced growers at new factories and for drouth in California:

	Sowings, Acres.	*Beets, Tons.*	*Sugar, Tons.*
New York	3,200	32,000	3,200
Illinois	4,000	34,000	3,400
Michigan	43,400	320,000	32,000
Minnesota	4,000	36,000	3,600
Nebraska	10,500	92,000	9,200
New Mexico	2,500	20,000	2,000
Colorado	3,800	30,000	3,000
Utah	7,800	78,000	7,800
Oregon	2,000	18,000	1,800
Washington	2,200	20,000	2,000
California	60,700	540,000	54,000
Total	144,100	1,220,000	122,000

These figures may be somewhat reduced as a result of the many inexperienced growers in several States and unfavorable weather conditions in California. The total production of sugar by American beet factories last year was only 33,960 tons in consequence of drouth in California. The year before the production was 41,347 tons. The increase this year was due to the large number of new factories which will be added to the list of plants in operation. The American beet sugar industry is now assuming much importance and becoming a factor in the world's sugar situation.

Earthquakes are supposed to be due to the readjustment of the earth's surface or crust enveloping the heated interior, which is believed to be slowly cooling. The unequal contraction due to this causes the seismic disturbances. A period of repeated earthquakes is often, if not always, followed by a more or less violent eruption of some volcano. Whether there is a direct connection between the earthquakes and volcanic outburst, or whether it is only a coincidence, can only be surmised.

HORTICULTURE.

Poisoned Liver for Yellow Jackets.

To the Editor:—In 1893, while engaged in drying my peach crop near Redding, I was greatly troubled with an invasion of yellow jackets, which came in such numbers as to ruin my peeled peaches, which were, of course, the best fruit I had.

The weather suddenly became very warm, the fruit ripened rapidly and the product of 2000 trees was at stake. Excessive sulphuring did not lessen the appetite of the insects for good fruit, and I tried several plans, with no success, until I hit upon one suggested by the yellow jacket's well-known taste for fresh meat. I had learned from hunters that these insects often prove very troublesome to them, cutting out and carrying away to their nests so much of the drying venison as to cause serious loss. I immediately planned a joke on my little enemy. I bought half a dozen beef livers, five pounds of arsenious acid and several pounds of baling wire. Cutting the liver into pieces as large as a man's fist, I put them into a hot solution of arsenious acid and, bending the wire into a hook at each end, I suspended the pieces from the lower limbs of trees all around my drying ground, and soon had the satisfaction of seeing my fruit deserted and the little insects busily working at the fragrant liver.

I expected results, but not such complete work as the poison accomplished.

The insects carried pieces of the liver to their nests, and besides causing the death of those that had been destroying my fruit, the next generation of yellow jackets was also destroyed, and so complete was the destruction that there were not enough of the little pests in that neighborhood the following year to require a repetition of the treatment.

There is no risk in so using the poison, for the yellow jackets will not return to the fruit, and bees will not go near the meat.

The yellow jacket may be of some practical use in the world's economy. I am not aware of any, and surely of none to compensate the horticulturist for the loss of his best dried fruit. Therefore I submit the foregoing to your readers, hoping to render them a service.

J. H. Miller, M. D.

San Leandro.

Cherries on Oak Clearing.

To the Editor:—As you are soliciting further information as to trees planted on oak clearing, I will give you some of my experience. Six years ago I had a piece of bench land cleared of the oak brush, which stood very dense on it. I cropped it then one year with oats and five years ago I planted it to cherry trees of the Royal Ann variety. Part of those trees were on mazzard and the others on mahaleb roots. Being of the opinion that those on mazzard roots would make larger trees than those on mahaleb, I planted them in alternate rows. They all made a very good growth the first two years, but then those on the mahaleb roots suddenly began to lose some of their number by an unknown root disease. There is hardly any difference in the size of the trees, but about half of those on mahaleb roots are gone, while those on mazzard roots are all there yet. There were no oak trees very close to these young trees, but the land was originally one mass of oak brush. The soil is a deep (rich in organic matter) sandy loam, which is always moist but never wet.

A. Kerz.

Ramona, San Diego county.

The Tilton Apricot.

J. E. Tilton tells the Hanford *Sentinel* that he grew a seedling apricot about twelve years ago at his ranch, near Grangeville. From the tree raised from the pit he budded quite a number of trees. A few years after securing the seedling, when he discovered that it was a sure bearer, he called to it the attention of Joseph Spier of Visalia, who is now dead. Mr. Spier was in the nursery business and he budded quite a number of trees in Tulare county to the fruit. The Tilton seedling has thus become scattered about the country, and Mr. Tilton says that he has yet to learn of the failure of the variety to bear. Last season, when scarcely any apricots were raised, the Tilton seedlings bore considerably, and this year, when many varieties were victims of the frost, the Tilton is doing well and will yield a crop.

In size the Tilton is said to be larger than the Royal, and nearly as large as the Routier peach apricot. The fruit ripens about the middle of the apricot season. Mr. Barstow, the Hanford nurseryman, has budded about 2000 trees this year to this variety.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

DAIRYMAN GUILTY.—Oakland *Enquirer*, June 23: J. J. Paul, the first dairyman to he arrested for selling milk carrying less than 3% butter fat was tried and convicted in the Police Court yesterday before a jury. Paul was arrested by Meat, Market and Milk Inspector Pierce when it was found that the sample of miik taken from one of his cans showed only 2.6% butter fat. Much interest was taken in the case by dairymen and the health officials. It was thought that the Dairymen's Association might assist in fighting the case, but it is said that the dairymen have decided not to do so, as they believe the regulation to be a fair one.

Butte.

FARMERS' WAREHOUSE BUSINESS PROSPEROUS. Biggs *Argus*, June 23: The Farmers' Co-operative Union Warehouse Company held its annual meeting and elected directors as follows: H. M. La Rue, W. Boulware, D. Streeter, Samuel Feder and C. N. Brown. Officers were elected as follows: H. M. La Rue, president; W. T. Boulware, vice-president; D. Streeter, treasurer, and C. N. Brown superintendent and secretary. The secretary's report showed that the net income of the association after paying all expenses, including salaries, etc., left cash on hand $1500, and storage on grain now in the warehouse, not collected, $450; total, $1950. This is equal to 8% interest on stock. A dividend of 6% to stockholders was ordered paid.

FLAX GROWING.—Biggs *Argus*: A. F. Stoudt brought to our office samples of flax now maturing on the Streeter place. One of the samples shows the flax ripe and ready for harvesting and the pods or heads well filled. This sample was from a patch planted before the frost season, and the fact that it has fully matured indicates that frost does not injure the crop. Other samples from patches planted iate in the season indicate a thrifty condition and the heads filling nicely. Mr. Stoudt has about thirty-five acres in flax which he will harvest with his binding machine. The crop is planted on red soil and will probably produce from six to ten sacks per acre, and Mr. Stoudt expects to realize about $2.20 per 100 pounds for it.

Contra Costa.

EXCELLENT CROP PROSPECTS.—Martinez *Gazette*, June 24: If there has ever been a year when the prospects of the farmers and fruit raisers in this part of Contra Costa county were high, it is this year. There is a tremendous crop of nearly everything. The grain and hay crop is immense. Farmers who usually cut from one to three tons per acre have this year four or five tons. The wheat, barley and oat crops are equally good. It is the same with the fruit crop, with the exception of one or two varieties. Cherries are almost a failure. Apricots are more than half a crop. Pears, apples, peaches and French prunes are fine. The aimond crop is a stunner; even iittle trees two or three years old are loaded. The prospects of a splendid grape crop, both wine and table, were never better. The sugar beet crop is better than usual. A farmer who has twenty acres in beets estimates his crop at 300 tons, and says his is not much more than an average of the land in beets about Pacheco.

Fresno.

FRUIT SHIPMENT.—Dispatch from Fresno, June 15: The first carload of green deciduous fruit from Fresno county the present season was shipped to-day to Chicago. It consisted of pears, Simoni prunes, Burbank plums and Tragedy plums.

MUCH SNOW.—Sanger *Herald*: A stockman who returned to town this week from the Dusy range and the north fork of Kings river, reports that there is more snow in the Sierra Nevadas at present than he ever saw before at this season of the year. Last year he turned his cattle loose on the mountain ranges during the month of June and there was hardly any snow to be found there, but the beautiful white is 5 feet deep at present and is melting so slowly that it will be a month yet before it disappears.

SQUIRREL BOUNTY FAVORED. — *Republican*, June 15: At the meeting of the Farmers' Club it was the general opinion that squirreis are becoming so numerous as to cause immense damage to crops of ail kinds. The following resoiution was adopted: "Resolved, That the Farmers' Cluh recommend to the Supervisors that they pay a reasonable bounty on squirrels killed within the county."

IRRIGATION FOR GRAIN. — Fowler *Ensign*: Remarkahle as it may seem, states J. W. Anthony of Jamison, in the face of the many reports of complete failure of crops in that locality, nearly every one will have a fair yield of grain. Anthony & Co., a few weeks ago, estimated their yield at barely enough to return to them the seed they put in the ground, but now they think they will have 4000 sacks. This change has been wrought hy irrigation. It seems almost incredible the length of time grain will lie dormant in soii or survive a drought after it has sprouted. Water applied late in the spring seems not only to give it a new lease of life but practically insures a bountiful yieid.

Glenn.

GRAIN FIRES.—Yuba City *Independent*, June 23: On Friday 250 acres of standing grain on the Boggs estate were destroyed by fire. Again, Saturday, a fire broke out and before it could be extinguished 700 acres had been swept clean of the crop.

Humboldt.

FAIR DIRECTORS' MEETING.—Eureka *Standard*, June 21: The Eureka Mechanical & Agricultural Fair Association held their annuai meeting yesterday and elected E. E. Skinner president and T. B. Cutler secretary. The next fair will be held from September 11th to 16th inclusive.

Lassen.

CREAMERY BURNED.—Susanville *Advocate*, June 22: The creamery conducted by W. E. Spoon at Missouri Bend was burned. The building and plant were a total loss, no insurance being carried. For many months this creamery has been doing a profitabie business, and the interruption to its trade will add considerably to the loss sustained by the fire. We are reliably informed that Mr. Spoon will rebuild.

Los Angeles.

BIG PRICES FOR ORANGES.—Covina *Argus*, June 24: H. E. Chesebro, manager of the Covina Citrus Association, reports two excellent sales of Valencias in the Baltimore market. One car of fancy brought $5 a box straight, netting $1680; another car the same day of choice brought $4.40 a box, netting $1478. The Association has sold eight cars since at similar prices.

NEW PACKING HOUSE.—Pasadena *Star*, June 21: The annual meeting of the Pasadena Decidiuous Fruit Growers' Exchange was held yesterday and it was decided to erect a packing and shipping house in Pasadena. The new directors chosen were C. E. Tebbetts, A. L. Schofield, C. H. Thompson, W. A. Heiss, Jas. Craig, J. W. Hugus and E. H. Royce. They organized hy electing Prof. Tebbetts president and T. J. Ashby secretary.

STOCKHOLDERS' ANNUAL MEETING.—Pomona *Times*, June 14: The stockholders of the Southern California Deciduous Fruit Growers' Exchange held their annual meeting in Los Angeles. President Sprague reported upon the increase of organizations, prices obtained for fruit, and the expense of the business, saying that apricots were sold from 8¼ to 13 cents, peaches from 8 to 11¾ cents, walnuts, soft-shell, 7 to 7½ cents, and prunes from 3 to 5 cents, according to grade, showing that the average price obtained for each fruit was considerably better than the average price obtained outside of the organization. The whole expense of selling, both here and in the East, averaged iess than 5%. The following directors were elected for the ensuing year: A. R. Sprague, Dr. E. W. Reid, Nathan Coie, J. B. Neff, A. L. Schofieid, W. H. Schureman, Morton Haig, Robert Dunn, D. H. Dunning, J. A. Brown and F. A. Bliss. R. A. Sprague was re-elected president and general manager; J. B. Neff, vice-president; T. J. Ashby, secretary, and the Farmers' and Merchants' Bank, treasurer.

Mendocino.

WOOL SALES.—Ukiah *Republican-Press*, June 23: At the wool sales during the week about 900 bales were disposed of at an average of 17 cents a pound. The highest price paid was 17½ cents, and the lowest 16½. This county produces about 1600 bales at the spring shearing, which means approximately $75,000 cash for the sheep raisers.

Merced.

NEW CREAMERY.—Fresno *Republican*, June 22: The Crocker-Huffman Co. is putting up a creamery at Merced. The foundation is now being laid and it is expected that the building will be complete and the concern in operation in about six weeks. A full complement of the latest improved creamery machines, with refrigerating plant, has been ordered. The creamery will have sufficient capacity to handle the milk of 1000 cows.

Monterey.

IRRIGATING ENTERPRISE. — Dispatch from Monterey, June 21: Francis Dond, who owns a 1000-acre ranch two miles south of Gonzales, is undertaking to irrigate his ranch. He is having three wells bored, which will be connected and worked by a 45 H. P. steam pump. One of the wells is already completed and gives a large volume of water. Five hundred acres of the ranch is adobe soii and Mr. Dond has found it impossible to cultivate it profitably without irrigation.

Napa.

TO MAKE ALMOND OIL.—Napa *Register*, June 23: A new industry will be started at the cream of tartar works. The company will begin to manufacture "almond oil" from the kernels of apricot and peach pits. H. C. Kinsey, who is in charge of the works stated that a new modern cracking machine and separator will be put in this week. The nuts are cracked, the kernels picked out and put in the sun to dry (to keep them from molding); then they are stewed and put into a machine which presses the oil out of them. Mr. Kinsey has a $2000 order from a San Francisco firm (which must be filled by October 15th) and he has contracted for 500 tons of pits.

Orange.

WALNUT PROSPECTS. -- Santa Ana *Blade*, June 23: George W. Minter says that a close inspection of the walnut orchards shows that while the crop will not be large, yet there will be more than was first expected. The large quantity of nuts that set late and were expected to fall off have not done so, and, instead, have attained a good growth and are looking as promising as any on the trees. Mr. Minter states that the trees themselves are in better and healthier condition than at this time last year, and attributes the fact to the small quantity of "honey dew" deposited on the leaves and branches this season.

San Joaquin.

PUMPING PLANT STARTED.—Stockton *Mail*, June 22: The pumping plant set up to supply the Woodbridge irrigation canal has been started several times for the purpose of making tests, inasmuch as the canal has been running full most of the time with water from the Mokelumne river. That stream is at a low stage now, and yesterday the pumps were started at their full capacity and will be kept running.

GOOD CROP.—Dispatch from Stockton, June 21: One of the most remarkable wheat crops of the year will come from the Bell-Fabian tract near Betheney. The land has hardly been free from periodical inundation for twenty years. Last September there was water all over the section where the crop is now nearing harvest. After the water receded grain was sowed, comparatively speaking, on the damp surface. All kinds of predictions were made about the seed rotting before it could take root; hut it sprang up and from the first advanced more rapidly than the carefully cultivated crops. It is estimated that the 3400 acres will produce 40,000 sacks of grain.

WOOL SALES.—Stockton *Mail*, June 22: The wool sold in Stockton during the last few months brought $87,500, and as much more is expected to be disposed of from the fall clip. During the spring 2500 long bales have changed hands, said Councilman Williams. The hales weigh 350 pounds apiece on an average, which makes 875,000 pounds of spring clip handled in Stockton. The price ranged from 8 to 13 cents a pound. A good deal of the wool was bought by Boston men. Representatives of the California woolen miils took considerable, and the rest was bid in by San Francisco speculators. The wool came from up the valley as far as Bakersfield and from the counties adjoining San Joaquin on the east. Most of it was raised in Calaveras, Stanislaus and Merced counties.

BIG BARLEY YIELDS.—Stockton *Mail*, June 24: The champion barley yield recorded this season is that just harvested by Mrs. Martin Ott. From twenty acres the yield was 1031 sacks, or more than 100 bushels to the acre. It is as fine a lot of barley as was ever sacked. Miiler & Matthews, who are farming in the same locality, report a yield of 39⅞ sacks of barley to the acre, and like reports come from farmers in several parts of the county. J. M. Bowman, whose farm is near Undine, claims to have done the biggest day's work thus far. He began work yesterday morning at the usual hour on a 150-acre patch, with a 27-foot harvester, and when quitting time came he had 1400 sacks of grain to show for the day's work.

San Bernardino.

CITRUS BUSINESS. — Redlands *Citrograph*, June 24: Orange shipments for this season have now reached about 9800 cars and there will be not to exceed 200 cars to go forward, probably less. This gives less than 10,000 cars against over 13,000 cars last season. Yet the crop has brought in more money than last year. Redlands Orange Growers' Association makes an excellent showing. Owing to short crop their shipments were forty-eight cars less than last year, but the good prices realized gave them $5000 more money.

San Luis Obispo.

FAIR DIRECTORS MEET.—*Tribune*, June 23: At the meeting of the directors of the Sixteenth District Agricultural Association, Smith Shaw was elected president; L. C. Routzhan of Arroyo Grande, vice-president; J. M. Barneberg, treasurer; Judge M. Egan, secretary. To take the places of John C. Gibson and J. V. Webster, who failed to qualify as directors, the Board voted to recommend for appointment A. C. Gibson of Los Osos and A. L. Thomas of Templeton.

Santa Barbara.

LEMON CROP.—*Press*, June 22: Predictions of a big lemon crop are being fulfilled. The packing houses are crowded to their capacity. It is estimated now that the output from Santa Barbara and Carpinteria will be about 300 cars for year ending November 1st. The quality is better than it ever was, the trees being older and the fruit uninjured by wind or too much water. The large crop is accounted for largely by the same reasons; new trees are coming into bearing, and the rains came just right during the winter. Under favorable conditions the yield for the coming year will greatly exceed that of the present season, as the acreage is gradually extending.

Sonoma.

FAIR DIRECTOR. — Santa Rosa *Republican*, June 22: Frank Muther has been appointed a director of the Fourth District Fair Association, vice Mr. Hatch, who resigned.

WINE SHIPMENT. — Sonoma *Index-Tribune*, June 24: The Gundlach-Bundschu Wine Company have shipped twelve carloads of red and white wines from Rhinefarm to their cellars in San Francisco.

LARGE GOOSEBERRIES.—Santa Rosa *Republican*, June 22: Some Mammoth gooseberries were brought from the Alexander ranch near Sebastopol, consigned to G. T. Trowbridge, and will be placed with the Sonoma county exhibit at the State Board of Trade. One of the largest of the berries measures 4 inches in length circumference and 3½ inches in width circumference.

WINERY SOLD.—Dispatch from Santa Rosa, June 24: The Italian-Swiss Agricultural Colony has purchased the Fulton winery. It is stated that the price paid was $20,000, and that the winery will be operated to its fullest capacity during the coming season.

Solano.

FIRST WHEAT. — Dixon *Tribune*, June 23: The first wheat of the season was stored in the warehouses at this point last Monday, J. S. Mayes and A. E. Church contributing to the initial storage. The grain weighed 142 pounds per bag.

LARGE YIELDS.—Dispatch from Rio Vista, June 21: Harvesting has commenced in earnest throughout this section. A number of steam harvesters are engaged in the work. In the Montezuma hills the barley crop has been exceedingly large, averaging twenty-eight sacks, while on the islands the crop will average about forty sacks. The wheat crop will be about twenty sacks to the acre.

CANNERY ENTERPRISE.—Benicia *New Era*, June 24: L. B. Hansen, manager of the cannery, visited a number of fruit orchards near Martinez this week and purchased an immense amount of apricots. About 30,000 cases will he canned. The output of the cannery for this season will he about 250,000 cases.

Tulare.

PRUNES DROPPING.—Visalia *Times*, June 22: Horticultural Commissioner Thomas says prunes are dropping badly in orchards on dry ground, but not nearly so much in orchards where the soil is moist and the trees have been irrigated.

LARGE APRICOTS.—Dispatch from Visalia, June 24: The biggest apricots ever grown in California are being harvested near Visalia. Harry Hurst says they average four to a pound. The biggest samples of this fruit are heing canned and will he put on display in San Francisco and Los Angeles.

CURING LEMONS. — Porterville *Enterprise*, June 23: C. W. Buswell has some splendid iemons. He picked them carefully in November, but does not store away anything colored. The colored ones he ships at once. He then places the green ones in hoxes 16 inches wide, 10 inches deep and 24 inches long. He fills the box with these, so that the box which is placed on top will not rest on any of the lemons below. The next day he places them in a cellar, the size being according to the space required. One top ventilator is all that is necessary, and there should be no other to cause a draught with the exception of a door, which should be open at night, when the temperature should not be over 60°. The cellar should he kept perfectiy dry. The boxes should be stacked close together to avoid the circulation of what air there is. The lemons are rarely sorted over, if kept according to above directions. Mr. Buswell has now shipped 1400 boxes this season of the crop of '98, for which he has received for the lowest $2.10 net per box and the highest $3.25 net. The rind is not thicker than ⅛ inch all through and is as smooth as a glove, and the lemons are as firm as the day they were picked off the tree.

Ventura.

COMPLETING THE SUGAR FACTORY.— *Independent*, June 22: Things at the Oxnard factory are rushing both day and night to get the factory in shape to grind beets. Ten or fifteen cars loaded with machinery arrive from the East daily. Quite a little time will be consumed in adjusting machinery, etc., so nearly all the early beets will be shipped to Chino in order to he ground. Three hundred men are now employed and are working night and day.

Yolo.

BREAKING BARLEY GRAINS.—Woodland *Democrat*: Douglas Balfour, agent for Balfour, Guthrie & Co., calls attention to the fact that many farmers injure the sale of their barley for malting purposes because they do not exercise proper care in threshing it. He has issued a circular in which he says: "I would respectfully impress upon the minds of farmers, as much as possible, the importance of great care in dressing their harley, to avoid breaking or skinning the grains. Of the two evils, skinning is the worse, as a few skinned grains in a sample detracts from their value in dollars per ton. It seems to he the impression generally that weight is the great essential, and many, in striving to attain that end, actually ruin good barley, as far as brewing is concerned. The test weight is really of minor importance. I had rather have bearded barley, provided it is plump, as we are provided with means at our warehouses for getting rid of the beards without spoiling the bariey."

Yuba.

HOP NOTES.—Wheatland *Four Corners*, June 24: The hop men are about to take a vacation until picking time. Work in the J. H. Durst and Jasper yards was completed this week. About the week after next work on the vines will be completed all along the river. The past ten hot days and north winds have injured the prospects for a large crop. However, the crop will be larger than that of last season. Early hops are now in the hurr, and, all things favorahle, picking will begin in the first week in August.

OREGON.

FRUIT CROP PROSPECTS.—Ashland *Tidings*, June 19: According to a report just issued by the State Board of Horticulture, based on reports from fifty localities in the State, Oregon's fruit crop on an average will amount to only half a crop this season. Taking 100 to represent an average yield, the prospective yield of the various fruits in the State at large, as indicated by the returns, is: Apples, 61%; peaches, 72%; French prunes, 60%; Italian prunes, 40%; cherries, 61%; pears, 45%.

OUTLOOK FOR HOPS.—Portland *Oregonian*, June 19: The hop crop in the vicinity of Salem is in a very promising condition. Squire Farrar, a recognized authority on hops, said that while the acreage is about the same as last year, there are no missing hiiis and there should be at least a third more hops produced this year than last. The cold, backward spring caused the vines to make a slow growth, but it strengthened them and they are growing finely now. Mr. Farrar says that the yards have been better cultivated than usuai. Many growers are beginning to spray to get rid of the few lice that have appeared. The spray generally used is made of quassia chips and whale oil soap; but a new spray, a carbolic acid emulsion, is being introduced and finds favor because of the greater ease of preparation. The hop market, so far as the contracting price is concerned, is now the best it has been this season. According to Mr. Farrar, all the buyers are ready to contract at 12 cents, and he has heard that as high as 13½ cents has been offered. But there are very few growers willing to contract their hops, and it is not expected that many contracts will be made until the growers are in need of picking money.

THE HOME CIRCLE.

A Monument for the Soldiers.

A monument for the soldiers!
And what will ye build it of?
Can ye build it of marble, or brass, or bronze,
Outlasting the soldiers' love?
Can ye glorify it with legends
As grand as their blood hath writ
From the inmost shrine of this land of thine
To the outermost verge of it?

And the answer came: We would build it
Out of our hopes made sure,
And out of our purest prayers and tears,
And out of our faith secure;
We would build it our of the great white truths
Their death hath sanctified,
And the sculptured forms of the men in arms,
And their faces ere they died.

And what heroic figures
Can the sculptor carve in stone?
Can the marble breast be made to bleed,
And the marble lips to moan?
Can the marble brow be fevered?
And the marble eyes be graved
To look their last, as the flag floats past,
On the country they have saved?

And the answer came: The figures
Shall all be fair and brave,
And, as befitting, as pure white
As the stars above their grave!
The marble lips, and breast and brow
Whereon the laurel lies,
Bequeath us right to guard the flight
Of the old flag in the skies!

A monument for the soldiers!
Built of a people's love,
And blazoned and decked and panoplied
With the hearts ye build it of!
And see that ye build it stately,
In pillar and niche and gate,
And high in pose as the souls of those
It would commemorate!

—James Whitcomb Riley.

The Stage to Sharon.

Nan was in a gypsyish mood that morning. The cloud-shadows chasing each other over the sunny green hills which walled the valley beckoned her; the rippling blue river sang a low song of invitation as it wound away to vanish behind a darkly wooded point. Her feet tripped to an unuttered tune as she walked down to the village with her cousin Marie.

The two girls had came to Scrembling Kill from a thriving Western city, on a long promised visit to a couple of elderly cousins, and at first the very strangeness of life in the sleepy little town had charmed them both. After the almost raw newness of their own homes there was a fascination in living on a street and among people that, as Nan delightedly confided to Marie, might really just have escaped from the covers of a novel.

But it must be owned that these joys had secretly palled upon them for some time. The Misses Loretta and Lavinia Van Vechten were most friendly and hospitable souls, and were honestly fond of their young cousins and proud of their pretty faces and smart city gowns, but their own ways, which they were convinced were the best in the world, were set and narrow in the extreme, and their circle of acquaintances was small and very much of their own age and order. They had fallen out of touch with the brighter, more progressive side of village society, to which they had belonged in their youth, and they had never been in touch with the wealthy new element which had made its fortune in mills and dotted the shady old-fashioned streets with handsome modern houses.

Hence until this morning, the hills had lured Nan in vain, and the river had sung its siren song unfollowed by her. But to-day the sunshine and breeze put rebellion into her blood, and she revolved vague plans of a ramble.

The mail was being distibuted when they reached the postoffice. Nan waited while Marie went on to do her shopping. As she returned, however, she met her cousin coming in quest of her.

"Marie," she solemnly began, "let us elope. The stage is waiting for us, so hurry up."

Instead of hurrying, Mrs. Powell stood still in not unnatural surprise.

"The stage?" questioned she.

"The stage to Sharon Springs," explained Nan. "You know we heard that one takes mail and passengers from here in the morning, and comes back in the afternoon. I saw it standing before the postoffice so I came after you at once. Do let's take passage! We can get dinner at the Pavilion at Sharon, and come back by tea time.

"Think what our cousins would say of our going off without a word to them, alone with a strange driver," objected Marie, though even as she spoke a thought of the trip came temptingly to her.

Nan laughed.

"The driver looks very gentlemanly, and we can send a note home by some boy to say where we've gone, and for the rest—can you not always chaperon me?"

This small joke was a standing one between the two, Nan was twenty-three and tall and dignified and gravely sweet of aspect; Marie was nineteen and small and gay and an innocently audacious flirt. Nan had gained knowledge of the world by having had to face it alone ever since she began teaching at seventeen, and Marie had gone straight from an indulgent father's home to that of an equally indulgent husband—but Marie was married and Nan was not, and hence the Boston aunt whom they had first visited had expressed her approval of their traveling alone, "because Marie could always chaperon Nan," a remark which had struck deep into their western sense of the absurd.

The chaperon now permitted herself to be drawn rather briskly along the street by the chaperoned, but suddenly advanced a final objection.

"What shall we do with ourselves while we have to wait at Sharon? We can't be eating dinner all the time."

"We'll sample the waters," suggested Nan, "and look up Revolutionary reminiscences. There was quite a respectable little battle fought near Sharon, you know."

"I think reminiscences of Flora McFlimsey and her hooped gowns would be more in my line," murmured Mrs. Powell, "or, no, it was a friend of Flora's."

While she spoke, they had neared the postoffice. The people waiting for their mail had departed, but a vehicle still stood before the building—a stoutly built, open vehicle, with a canopy and broad, empty, inviting seats; a very attractive stage to those used to seeing anything from a new four-in-hand to an old farm wagon dubbed with that name. The driver, a dark-haired young man in a rather shabby flannel suit, was just gathering up his reins to start. Nan, who was usually spokeswoman in the two cousins' travels, hurriedly advanced.

"You're going to Sharon this morning and coming back before night, aren't you?" she inquired, to make sure.

"Yes replied the young man, politely lifting his hat as he turned at the sound of her voice and regarded her with a pair of somewhat startled and intensely blue eyes of mingled fun and fire. Marie, who was a critic, instantly decided that he was not only gentlemanly, but uncommonly handsome, in spite of his well-cut face being tanned to a golden bronze.

"Then," said Nan, with graceful dignity, intensified by the knowledge that Marie was considering the proposed trip a particularly "jolly lark," "then we will go with you. How much is the stage fare?"

"I—I believe it's a dollar, miss," hesitated the man. "You see," he began to explain, "I'm not the regular driver, but—"

"His substitute, I suppose," put in Marie, who thought it about time she had a share in the conversation.

"Yes'm, a substitute," agreed the young man, as he alighted to help his passengers in.

He proved an obliging driver. He willingly consented to wait while Nan wrote a note to her cousins, and Marie bribed a small boy with some of her bonbons to deliver it. Then at a word and touch the two strong horses struck off and the beautiful view of the valley began to widen and lengthen beneath, while every new height scaled showed hills beyond hills ascending until they faded into the blue, hazy distance.

Beyond the village the road led past pleasant farms with white houses and green pastures and fields of golden grain. It went along heights, where stately rank on rank of murmuring pines marched down to the trembling foaming laughing waters below, and it wound through deep, cool woods, with just enough sunshine piercing their thick-set leaves to brighten the shadows with flickering gold.

Marie's appetite for scenery was more easily satiated than was Nan's, and one of her letters was from her husband, so she soon became absorbed in perusing it. Not until she had read it through several times did she return with a little unconscious sigh to the realization of her surroundings. Then she saw that the stage driver had half turned round on the front seat, and Nan was leaning toward him, her white sailor pushed off her face, revealing the wilful blonde curls blowing about her forehead and her wide gray eyes dark, intent and earnest.

"Yes," the young man was saying, "we pass a good many points of interest on the road, and besides, I can take you to the Sharon battlefield. My uncle lives near there, and even now bullets and military buttons and the like are sometimes plowed up on his place. The folks here keep up traditions. Out at Cherry Valley some will tell you that the path by which Grant and Butler led their troops over the hills to the massacre, is accursed, so that no grass grows on it to this day."

Mrs. Powell settled back in her corner and shook with secret laughter.

"My duties as chaperon are certainly a sinecure," she told herself. To look at that girl's face and then to overhear the conversation! But if it were anybody but Nan—"

One of Marie's thoroughly French little shrugs of the shoulder filled out her sentence.

Still, both chaperon and chaperoned were used to the western type of country driver, who thinks it his duty to entertain his fares on the road. They agreed with each other that it seemed quite like home when, on their admiring the wayside flowers, their driver stopped and got out to gather them great handfuls of purple and white daisies, lit up by the few sparse sprays of the earliest goldenrod.

"There are cardinal flowers in a swampy meadow farther on," he observed. "We'll get some as we pass if you like."

"Of course we'd like to, only—won't it make you late at Sharon if you stop so often for us?" asked Nan, who adored flowers, checking herself in her cordial acceptance of the kindness.

The driver's white teeth flashed under his short, dark moustache in a boyishly bright, frank smile.

"It won't make a bit of difference, miss," he said. "They're not very strict with me as to hours there."

Thus reassured the girls decided to go after the cardinal flowers themselves as they had never seen any growing, and again the talk between the back seat and the front grew "engrossing and revolutionary," as Marie afterward described it, so that she soon dropped out of it and resigned herself to watching the scenery in most unwonted silence.

Perhaps it was because such silence palled upon her that, when the obliging stage driver again passed his reins to Nan and jumped out to gather more goldenrod, she made use of his absence to remark:

"Well, Nan, until to-day I would have made oath that you didn't know how to flirt, but in my most unregenerate hours, I never picked up a handsome young stage driver, and made such running with him!"

"Marie!" protested Nan. A wave of distressed scarlet swept over her soft fair face and she regarded her accuser with eyes of honest amazement. "You know I'm not flirting, only talking about local antiquities," she declared with energy, "and that man knows it, too. He is surprisingly well informed considering his position and—"

"Sh!" warned Marie, "he's coming back and you surely don't want him to hear you complimenting him—after all the rest, too!"

In spite of Nan's protests her cousin's words rankled. Hence she thanked the driver rather frigidly for the goldenrod and then fell into a mood of chill reserve which lasted till they stopped for the cardinal flowers whose scarlet splendor was distinctly visible a couple of fields away. Conscious of Marie's eyes, Nan would hardly accept the unfortunate young man's aid to alight and while he was tying his horse she took advantage of a broken-down place in the stone wall to enter the first meadow without assistance.

"Still in extremes of good or ill," wickedly quoted Marie in her ear while their escort was busy letting down the bars which led to the flowers.

"My dear, if our well-informed stage driver ever read Tennyson he must think he has suddenly found an American woman version of Lady Clara Vere de Vere."

This, as may well be supposed, did not tend to improve Miss Van Vechten's state of mind. Protesting that half the charm of wild flowers lay in picking them one's self, she declined all aid from the still polite stage driver and sprang lithely and carefully from tussock to tussock among the mud, harvesting the stately blossoms as they went, while Marie prudently waited on dry land for her share of flowers to be gathered by masculine hands.

Pride went before a fall, however, in Nan's case, for just as she had penetrated into the coziest, marshiest spot and with her skirts gathered up in the hand that held her flowers, was reaching for a particularly splendid spray, a stone to which she had trusted herself turned suddenly with her and, clutching wildly and vainly at the air, she came down on her knees at the very feet of the stage driver. Only his quick hand saved her from still more ignominious prostration.

She meekly accepted his help back to firm ground, where she arrived a spectacle of mud and humiliation. Marie pityingly did her best for her with handkerchiefs and burdock leaves, but her pretty blue mohair of the morning remained a soiled and stained wreck. The driver's conduct, meanwhile, was beyond praise, for not even Nan could detect a hint of amusement or of vengeful triumph in his expression.

"Well," pronounced Marie, critically looking her cousin over when at length she ceased from her labors, "such an unpresentable specimen as you are certainly can't go to a hotel to dine. What shall we do now?"

Hereupon their driver suggested that he should leave them in a grove near town and bring their dinner from the Pavilion, and even so it was done. The unconventional little picnic proved rarely pleasant. Marie forgot to tease and Nan to cultivate glacial reserve. Their driver appeared to feel their entertainment incumbent upon him, and helped them to find rare ferns, took them to the battleground and did what Marie termed "the antiquarian honors of the place," to even Nan's satisfaction. The drive home in the late afternoon was delightful, and it was with real gratitude that the cousins paid and dismissed the nonpareil of stage drivers at their own gate. He looked a little doubtfully at the money as it fell into his slim brown hand, and for a moment, Marie, who had once had trying experience with a Chicago hackman, feared he was about to dispute the fare, but he merely slipped it into his pocket, thanked her and drove away.

Cousin Loretta met the girls on the porch. She gazed after the retreating vehicle and its driver with interest that overlooked Nan's mud-stained gown.

"Look, girls, there goes that new wagonette of the Dalys!" she exclaimed.

"The what?" gasped Marie. She said no more, for Nan promptly gave her a warning pinch. Both had recognized the same of Daly as that of the richest saw mill owning family in that village.

"The Daly wagonette," said Cousin Loretta. "It's the first thing of the sort in town, but these people are always getting something new. Neil Daly was driving it, I saw. He hasn't been long back from a yachting tour

with his sister She married a New York banker, and they say her dresses are something wonderful. She and Neil have had every advantage, of course, but dear me! when I remember that their father came to this town nothing but a mechanic, was as poor as poverty, and now to look at the house he has built here and the magnificent place his brother has near Sharon, I really—but my good gracious, child! what have you been doing to your dress?"

Nan made the most of her diversion, and presently escaped to her room under plea of changing her gown. She was followed by Mrs. Powell. The two looked at each other an instant in eloquent silence, and then Nan cried and Marie laughed till both were out of breath.

"The joke is on us," sighed the latter at length. "The stage to Sharon, indeed! I wonder how that man was able to keep his face straight one minute of the day."

"It wasn't his fault any more than it was yours," said Nan forlornly. "I made the mistake first, and I seized upon him—and the stage!" and she laughed in spite of herself, as she remembered her calm statement to Mr. Daly that they would accompany him on his ride to Sharon.

"I aided and abetted you, anyhow," continued her cousin; "but well, it's a comfort to think we're only pilgrims and strangers here, and not exactly in the Scrembling Kill Four Hundred, so we're not apt to meet Mr. Neil again. I really don't think he'll make a joke of us among the men, either—he somehow doesn't impress one as that sort of a man. I do wish we were ever likely to know what the wretch did it for though!"

On the very next evening the Ladies' Society of the church to which Miss Loretta and Miss Lavinia belonged gave a lawn social. Miss Lavinia was chatting about it to Nan as the cousins walked down the hill in the twilight.

"You see," she said, "we have been putting it off till Neil Daly and his sister came home. They always have a lot of guests then, and come to our entertainments and spend liberally. Perhaps you will meet them to-night, Neil's mother was a great church worker till she became an invalid and—"

Cousin Lavinia prattled cheerfully on, proud to display her acquaintance with the manners and customs of the Dalys. Nan had caught a suppressed little ripple of laughter behind her, and knew that Marie, too, had heard. But what could they do? It was too late to get up a headache apiece, and they could hardly both be taken suddenly ill. A dozen futile plans of escape flashed through her mind only to be dismissed as they ascended another hill and arrived at their destination.

The small, unfenced lawns of four corner houses had been appropriated to the social, and were dotted with tables and chairs, and bright with gay Chinese lanterns swinging from the trees and verandas. An electric light hung high above the center of the cross-grounds and under its strong white rays groups strayed from one lawn to another, and the riotous knots of children rejoiced over ice cream and cake.

Mandolins were tinkling in the doorway of one of the houses and the friendly voices chattered to each other. Several elderly acquaintances of the Misses Van Vechten greeted them and the girls, and Nan answered them all mechanically; but her whole mind was given to tensely watching a certain faultlessly attired bronzed young man with blue eyes and dark hair as he neared her party.

"Nan," whispered Marie, warningly, "it is to be hoped that our friend the stage driver will have sense enough to pretend he is properly acquainted with us, for old Mrs. Pepperell saw us yesterday and has just been asking me how we enjoyed our drive, and she spoke so loud that I'm sure he heard her."

Here was a new complication! Nan bit her lips vexedly. She was aware that Neil Daly had come up and had taken his cue and was speaking to her and Marie Powell as an acquaintance, but she was sure she accepted his escort for a promenade merely to give Mrs. Pepperell no cause for remark, and to get him away before Miss Loretta or Miss Lavinia should turn from the gossiping group they were engaged with, and ask some awkward questions as to how and where she had been introduced to Mr. Daly.

This point, indeed, has never been made quite clear to the Misses Van Vechten. They know and innocently value as a fine feather in their social caps the patent facts that Neil Daly introduced his sister to Nan and Marie that evening at the social; that she very soon called on the girls, with polite regrets that her mother was not able to go out, and hence unfortunately could not renew her early acquaintance with the elder ladies; and they know that presently her brother was doing much more than his share of the calling, and that his wooing sped with such true fervor that almost before old Mrs. Pepperell could begin to gossip much about his attentions to Nan, their engagement was announced.

Enjoyment in Occupation.

It is well for a woman at a very early age to endeavor to secure enjoyment in occupation. Books, sewing, the arrangement of her home, music, the care of pets, all help her to enjoy hours of solitude rather than fretting for the unattainable in the matter of human companionship. One's own thoughts can be so trained that they are as sentient as the most conversationally inclined individual.

The day spent in idle longing for some one to drop in or in wishing that she might go somewhere or do something gives to a woman that look of discontent that is fatal to beauty, and is futile, so far as concerns beneficial results, either mentally or physically, says the Philadelphia *Times*. On the other hand, with good books for friends, a woman is in touch with intellectual kings and queens. She is storing up treasures of memory that will be a never-failing source of pleasure when the twilight of life comes, and she must depend on her fund of reminiscence for her daily comfort. Occupation of the right sort is the greatest cure for loneliness and a safeguard as well.

A PROMINENT New York lawyer is noted for his ready answers and skill in repartee. When a young practitioner, he appeared before a pompous old judge, who took offence at a remark the lawyer made criticizing his decision.

"If you do not instantly apologize for that remark, Mr. Blank," said the judge, "I shall commit you for contempt of court."

"Upon reflection, your Honor," instantly replied Mr. Blank, "I find that your Honor was right and I was wrong, as your Honor always is.

The judge looked dubious, but finally said that he would accept the apology.

LET every dawn of morning be to you as the beginning of life and every setting sun be to you as its close. Then let every one of these short lives leave its sure record of some kindly thing done for others—some goodly strength or knowledge gained for yourselves; so, from day to day, and strength to strength, you shall build up, indeed, by art, by thought and by just will, an Ecclesia, of which it shall not be said, "See what manner of stones are here," but "See what manner of men."—Ruskin.

TEACHER—John, of what are your shoes made?

John—Of leather.

"Where does leather come from?"

"From the hide of the ox."

"What animal, then, supplies you with shoes and gives you meat to eat?"

"My father."

"WHO is Aguinaldo?" asked Maud.

"Why, don't you know?" responded Mamie. "He's a Malay."

"Oh, yes! How stupid of me. One of those people who come from Malaria."

Sun Never Sets on Old Glory.

From our islands asleep by the southern deep,
Past the shores where the billows are beating,
O'er hills capped with green and fair valleys between,
Speed on when the dawn smiles her greeting;
O'er broad, fertile plains where the god, Plenty, reigns,
O'er mountains snow-crested and hoary,
Sweep westward, but know that wherever you go,
The sun ever shines on Old Glory.

Past the Golden Gate flee to the isles of the sea,
Its folds still are laughing above you;
Wherever you roam is that emblem of home,
That symbol of fond hearts who love you.
It shies o'er the seas as a promise of peace,
But flaps o'er the battle field gory
At Liberty's call—a protection to all—
The sun ever shines on Old Glory.

Wherever it waves, there the shackles of slaves
Shall crumble and vanish forever.
The country, whose winds kiss its colors, it binds
With a tie that no foe can dissever.
Its blue and its stars tell of Liberty's wars
And all men are learning its story.
'Tis a new hope unfurled and it floats round the world.
The sun never sets on Old Glory.

—J. A. Edgerton.

Independence Day.

Loud, on a sudden, with vehement voice,
Over the heads of the listening throng,
Clamoring, clanging, "Rejoice, rejoice!"
Answers the great bell, jubilant, strong.
And a nation's heart in unison
Throbs and thrills, as the peal sweeps on
Down through the ages, echoing,—*Ring!*
God of our sires, let the joy bells ring!

—Grace Putnam Osgood.

Is it True?

"Inquirer" asks if it is true that unselfish parents make selfish children and vice versa. It is true unless the parents take great pains to counteract natural results. If the parents both set themselves aside and allow the children to think they do not care for attention or for a share in the good times, the children naturally neglect them. Each parent should see to it that the children are fully taught to treat the other parent thoughtfully, lovingly and unselfishly. In the same way the parents should take care for the one or two shy and unselfish ones among the children. As for selfish parents making unselfish children, we frequently see instances of it. If the mother requires constant suppression on the part of her children and a constant yielding to her own comfort and selfish wishes, the young people are apt to grow up unselfish because of the daily drill.—Amy B. Fisk.

DOMESTIC ECONOMY.

Domestic Hints.

SPICED BAKED APPLES.—Peel and core five large, sour apples; mix one-half cupful of sugar, one-half teaspoonful of mixed spice, cinnamon, nutmeg and clove, two tablespoonfuls of water and two of cracker crumbs. Fill each cavity with the mixture, and bake twenty-five minutes in a quick oven.

PLAIN SUET PUDDING.—Mix together butter the size of an egg or a piece of suet chopped fine, one cupful of molasses, one-half cupful of boiling water, a teaspoonful of ginger, a half teaspoonful of cinnamon, a half teaspoonful of soda, a cup of currants and one of raisins. Add flour to make about as stiff as gingerbread. Bake in a moderate oven, then steam.

MAPLE SUGAR FROSTING.—To one cupful of grated maple sugar add four tablespoonfuls of water, and boil until brittle. Drop a little into ice-cold water, and test by pulling it apart. If it spins a short thread before snapping it is done. Remove from the fire and pour immediately upon the beaten white of one egg, and beat until cold. This is delicious. Where people like the mild flavoring of the maple sugar the following will please their taste: To the white of one egg add an equal measure of cold water. Stir into this equal parts of maple sugar and XXX confectioners' sugar until it becomes the consistency to spread smoothly upon the cake. This makes a soft frosting.

LYONNAISE POTATOES.—Put two scant tablespoonfuls of butter in a frying pan; when melted add one tablespoonful of very finely chopped onion and cook for five minutes, when they should be just beginning to change color. Add one pint of diced cold boiled potatoes and shake occasionally until the butter is absorbed and the potatoes have assumed a faint golden tint. Season with salt and pepper, sprinkle over one tablespoonful of finely chopped parsley and serve in a hot dish.

Some Homely Helps.

Flour should always be kept in a cool, dry place.

Rice has a fine flavor if washed in hot water instead of cold, before cooking.

The smaller a roast of meat, the hotter should be the oven at first, that the least possible amount of its delicate juices may escape.

The small paper bags that fine groceries come in are a better protection to the hand than the gloves made purposely for blacking stoves.

Canned vegetables, like canned fruit, are improved in flavor by standing open two or more hours, to restore the oxygen that was eliminated in cooking.

A neatly covered board, broader at one end than the other, that can be easily put through the sleeves of wash shirt waists, is a decided help in ironing.

A small, strong table, with castors, that can be run back and forth between kitchen and pantry, saves innumerable steps and any amount of time and patience.

The best graniteware or other metal coffeepot will acquire a rank flavor if it is not occasionally purified with borax, ammonia or some other cleansing agent.

Bread crumbs for covering the top of scalloped and other baked dishes should be buttered evenly before they are spread, not put on plain, with bits of butter scattered over.

In making bread, rub a little sweet lard or other fat over the top as often as it is kneaded, and it will not only rise more quickly, but have a soft, delicious crust when baked.

If rice is not disturbed during the process of boiling, the berries will be whole, dry and easily digested. A few drops of lemon juice added to the water will make it whiter and finer flavored.

Bread should never be covered with a cloth when taken from the oven, but laid on the side and allowed to become perfectly cold; then keep in a closely covered tin box, without any wrappings.

To care for a person who has fainted, lay the person down, keep the head low, loosen the clothing, give plenty of fresh air and dash cold water in the face. Smelling salts and stimulants should only be used when consciousness has returned.

Linen will last much longer if soaked and then steamed or boiled without rubbing. Let it boil about five minutes. Rinse very thoroughly. Did you ever notice iron-rust spots in your linen for which you could not account? Those were caused by the laundress, who was careless about rinsing and left the soap in.

The Art of Dusting.

It requires considerable deftness to dust a room thoroughly and reach every cranny and corner dexterously. The mere driving of the dust with a feather duster from one part of a room to another is not sufficient. It should be taken up with a cloth duster. One of sheer scrim, which can be thrown into a solution of boiling hot soda and water and scalded out, is better than anything else. Woolen dusters are not as easily washed as cotton. The dust on walls should be removed by brushing them down with a long, light-handled brush adapted to the purpose, or with a broom over which a cotton cloth has been tied.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, June 28, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	July.	Sept.
Wednesday	75 @73⅞	76¾@75⅝
Thursday	74⅜@75¼	76⅛@77
Friday	74¼@74⅝	76⅛@76⅜
Saturday	73¾@73	75¼@74⅛
Monday	72⅞@72	74⅝@73¾
Tuesday	71½@72½	73⅞@74⅛

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	July.	Sept.
Wednesday	5s 11½d	6s 1¾d
Thursday	5s 11½d	6s 1⅝d
Friday	5s 11½d	6s 1¾d
Saturday	5s 10⅜d	6s 0½d
Monday	5s 9⅞d	5s 11⅞d
Tuesday	5s 8⅞d	5s 11¼d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 19⅝@1 19	——@——
Friday	1 18⅝@1 18⅞	——@——
Saturday	1 18 @1 17½	——@——
Monday	1 17⅞@1 17¼	——@——
Tuesday	1 17¾@1 18⅛	——@——
Wednesday	1 18⅞@1 18⅜	——@——

Wheat.

Values for spot wheat have not budged to any noteworthy degree since last report was made in these columns. The spot market is certainly no more favorable to buyers than a week ago. Not much business has been transacted, but exporters are getting ready, five ships having been listed for grain this week, four for wheat and one for barley. In the speculative markets lower prices have been established, in the East and in Europe as well as here, with the declines more pronounced in Chicago and Liverpool than on the local Board. Chicago futures show a drop of 2@3c per bushel, and Liverpool declined about 5c per cental. On December wheat in this market the loss was only about 1c, and most of this was recovered before the close.

The manner in which the speculative market for wheat moved downward during a portion of the week, despite continued prospects of a comparatively light yield this harvest in both Europe and North America, made the situation look very much as though "bucket shop" pressure was being used with more than ordinary force to shape the market in favor of the bucket shop manipulator. A little explanation of what is meant by "bucket shop" pressure will be in order here, as there are few who understand the devices of this modern trickster, who is no better and perhaps a little worse than any common bunko steerer or sure thing gambler. The "bucket shop" is a concern doing business on the outside of regular grain boards, but depending on the values daily established on the regular boards. The term "bucket" was given them on account of their taking orders from individuals for bucketfuls, sarcastically designated, or for much smaller quantities than orders would be received by regular board members. The bucket shop, as has been said of some of the small lottery companies, abides by the figures of the regular boards or big concerns, without having anything to do with the management thereof. The bucket shop, however, has proven to be a big factor in shaping speculative values. It advertises extensively and its seductive and deceptive statements may be seen daily in the newspapers of this and every prominent city, reading something like the following:

GET RICH without working and without risk; a small investment in the wheat market by our new and patented system will insure you a handsome monthly income; we have never made a loss; money may be withdrawn on demand; gilt-edge references; write at once for particulars.
KATCHEM & CHEATEM.
Swindler's Row, Chicago.

While these shops take orders to either buy or sell, they aim to keep their constituents or victims on one side of the market as much as possible, so as to be able to cinch or rob the greatest number with the least trouble. The bucket shop man is aware that the raw and untrained speculator is a natural buyer, so he generally plans accordingly. The bucket shop orders are seldom filled on the large boards. The following is one mode of precedure, although, occasionally modified: With numerous orders booked at a fixed price on the long side of the market, and on a very small margin, so that little fluctuation in the wrong direction is necessary to knock the victim, the bucket shop man sells just enough on the regular board to depress the market the slight amount required to make him winner of his client's money. If these and similar tactics fail of their purpose, he generally busts, so that the majority of outsiders are in any event sure to be fleeced. Of course, a client will occasionally receive a little money, just as a victim at a gambling table will make an occasional winning, only to lead him more surely and swiftly to life membership in the vast brotherhood of financial wrecks.

California Milling	$1 12½@1 17½
Cal. No. 1 shipping, alongside	1 07½@1 10
Oregon Valley	1 07½@1 12½
Walla Walla Blue Stem	1 10 @1 15
Walla Walla Club	1 05 @1 12½
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.17½@1.19⅝.
May, 1900, delivery, $——@——.
Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.18⅞@1.18⅝; May, 1900, ——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1897-98.	1898-99.
Liv. quotations	7s9d@7s10d	6s3½d@6s4½d
Freight rates	24⅛@27½s	30@32½s
Local market	$1.35@1.40	$1.07½@1.10

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The market continues to be heavily burdened with offerings, largely the product of mills in adjacent States and Territories. Under the circumstances, it can be readily inferred that buyers have the decided advantage. Sales at full figures are principally in a small way or of brands having an established and high reputation.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Weakness of the market for new product has continued a conspicuous feature. Millers and dealers are now fairly stocked with deliveries on early sales of new to arrive, and, where not in actual need, operate only when decided bargains are presented. There is some export demand for new Brewing barley, and this is likely to be the main support of the market for some weeks to come. Shippers are not always so exacting as to quality as most of the local brewers and maltsters, and will frequently take barley for export brewing which on the local market would only pass for choice feed. Supplies of old barley are now very light, with scarcely any call for the same, except in a small way on local brewing account. Such occasional transfers of old barley as are being effected are mainly within range of $1@1.10, as to quality, quantity and other conditions. Trading on Call Board was not particularly active, and was at much the same low range of prices as were in force immediately prior to close of last review. Most of the transactions in the speculative market were in deliveries, at seller's option, of No. 1 feed at any time within the year.

Feed, No. 1 to choice	90 @ 92½
Feed, fair to good	87½@ 90
Brewing, No. 1 to choice, new	92½@ 97½
Chevalier, No. 1 to choice	— @ —
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 82@85¾c.
December, 1899, delivery, 85½@88¼c.
Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——@——c; seller 1899, new, 85½c bid.

Oats.

Market has been slow and devoid of strength. The abnormally high figures lately demanded for old oats operated in a twofold manner against the selling interest, in the first place causing buyers to economize greatly or to turn wholly to other cereals. In the second instance, growers were stimulated to make extraordinary effort to get new crop to market as speedily as possible. New Red oats have been offering by sample for a week or more, and new White are expected to put in an appearance in quotable quantity at an early day. Sales of new Red were made as low as $1.20 the current week.

White Oats, fancy feed	1 40 @ —
White, good to choice	1 30 @1 35
White, poor to fair	1 25 @1 27½
Gray, common to choice	1 30 @1 35
Milling	1 30 @1 37½
Surprise, good to choice	1 40 @1 45
Black Russian	1 25 @1 30
Red	1 25 @1 30

Corn.

The corn market is inclining more in favor of consumers than for some time past, partly in sympathy with the reduced prices lately established for other feed cereals, but more particularly owing to a material increase during the past fortnight of supplies of imported product. The weakness manifested is mainly on Eastern Large Yellow or Eastern mixed. Supplies of Large White and Small Yellow of local product are too small to admit of much other than retail transactions.

Large White, good to choice	1 12½@1 17½
Large Yellow	1 10 @1 12½
Small Yellow	1 35 @1 40
Eastern Mixed	1 07½@1 10

Rye.

No material change to note in the situation. Stocks are being steadily held, and to purchase freely higher rates than are quoted would have to be paid.

Good to choice, new	97½@1 02½

Buckwheat.

There is little doing, the market being usually quiet at this time of year. Values remain nominally as before noted.

Good to choice	2 25 @2 50
Silverskin	— @ —

Beans.

Changes in quotable rates have not been numerous or marked since last review, but the tone appeared to be slightly firmer, especially for Lady Washingtons, Bayos and Pinks, the three varieties which have been largest in stock for months past, and on which such weakness as has been lately existing was most pronounced. The better tone presented is the result of indications that the coming crop of these varieties will not prove as large as had been generally estimated. Besides, supplies have been materially reduced, especially of Pinks and Bayos, through recent shipments outward. Values for Pea and Small White are ruling decidedly steady, with no disposition shown to crowd offerings of these varieties to sale. Limas are not meeting with active inquiry, neither are spot supplies of this bean heavy, but market for same is slightly easier.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 05 @2 15
Lady Washington	1 50 @1 65
Butter, small	—— @——
Butter, large	—— @——
Pinks	1 85 @1 95
Bayos, good to choice	1 60 @1 70
Reds	3 35 @3 40
Red Kidneys	2 50 @2 75
Limas, good to choice	3 90 @4 00
Black-eye Beans	4 10 @——
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Recent advices by mail from New York give the following report of the bean market in that center, prices quoted being per 60-lb. bushel:

Fresh arrivals have continued light, and while the general movement of stock has been very moderate there has been some further reduction of previous accumulations. The home demand for Marrow has shown no improvement, but several hundred barrels have been taken for export at $1.40@1.42½ f. o. b., mostly at the latter figure, and this has led to a little steadier feeling at the close; it is doubtful that receivers would now be willing to accept less than $1.42½ for the choicest marks. Medium have ruled quiet, and while most holders ask $1.30, occasional sales reported at $1.27½. A fair quantity of Pea has been moved at $1.25@1.27½, most of the jobbing sales at the outside figure. The demand for Red Kidney has been light and prices have ruled a shade easier; export orders were mostly filled at $1.72½, and there is no difficulty in buying the best good at that. Choice White Kidney are scarce and firm. Not much doing in Yellow Eye, but the supply here is so light that holders are not pressing sales. Small jobbing sales of Turtle Soup at $1.70, and feeling steady. California Lima slow and without quotable change; only peddling sales at $2.55. Green peas have ruled steady to firm, but the trading has not been large.

Dried Peas.

There is so little doing in this product, either domestic or imported, that only nominal values in the wholesale market can be stated at this date.

Green Peas, California	2 30 @2 40
Niles Peas	2 00 @2 10

Wool.

Buyers have not been letting any opportunities slip to secure wools, especially at interior points, where in some instances relative stiffer prices have been paid than were at same time obtainable in this center. Last week at Ukiah 17¾c was paid, while for equally good stock the same buyers had just previously refused to pay 17½c in San Francisco. The higher figure was established, however, under somewhat peculiar conditions, and sharp competition among operators to secure the wools in question. Stocks in this State are now largely in second hands, and the clip of Oregon, Washington and Nevada is being rapidly absorbed by shippers, manufacturers and dealers. A very small proportion of the clip has found its way thus far this season into the hands of manufacturers. When foreign buyers commenced operating, speculators saw there was no chance for wools being imported, and immediately began purchasing heavily. Most of the wools in this State were picked up in a few weeks, and buying in the adjacent territories was after the same lively fashion.

SPRING.

Humboldt and Mendocino	15 @18
Northern Sacramento Valley, free	12 @14
Northern Sacramento Valley, defective	9 @11
San Joaquin foothill, free	10 @12½
San Joaquin foothill, defective	8 @10
San Joaquin plains and southern, 7 mos.	—@—
San Joaquin plains and southern, 12 mos.	7 @10
Nevada, as to condition	10 @14
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17½

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	—@—
Plains, defective	—@—

Hops.

The market is in a waiting attitude, with prospects that such will continue to be the case for a month or more, or until new begin to arrive in quotable quantity. Choice 1898 hops are scarce and are quotable up to 17c, with some asking higher figures. The opinion is entertained that choice of this year's growth will command up to 15c, and possibly a little more. Some dealers are bidding 12@13c for choice new to arrive, the latter figure being for favorite marks. There are no evidences, however, of many of the coming crop of hops being secured on contracts.

Good to choice, 1898 crop	14 @17½

The following information on hops comes through from New York by mail of late date:

Warm weather has increased the consumption of beer to an appreciable extent, and this has made brewers look more closely to the stock of hops on hand. The result has been more interest and a better demand from that class of trade. Buyers have paid full former prices for such grades as they have wanted, and the market generally has a steady to firm tone. A few lots have also been turned out for export, and the week's receipts include over 200 bales for shipment direct, but which are not likely to clear before next week. English mail and cable advices are firm with so light stock that if we had better qualities to offer exporters they would likely do considerable business. Reports from the growing crop in this State are generally favorable, warm weather bringing the vine along in good shape. In some localities the drouth is complained of, and rains would help the yards very much. Some business is doing in the country, mostly in grades worth 10@11c; really choice growths are held higher.

Hay and Straw.

The demand for hay is now mainly for new product, and there is little difference between values for new and old. Prices for both are at a low range, dealers not caring to stock up heavily at present. The new hay now arriving is of generally desirable quality, being in the main well cured and suitable for storing. Straw was in very light receipt and there was little demand at previous rates.

NEW.

Wheat, fair to choice	8 00@ 9 50
Oat	7 00@ 8 00
Alfalfa	5 00@ 7 00

OLD.

Wheat	8 00@10 50
Wheat and Oat	7 00@ 9 50
Oat	7 00@ 8 00
Barley, River	——@——
Timothy	——@——
Compressed	8 00@11 00
Straw, ₱ bale	25@ 40

Millstuffs.

Market for most kinds of millstuffs lacked firmness, although there were no very radical changes in quotable values. Further declines on most descriptions are looked for, however, in the near future.

Bran, ₱ ton	15 50@16 50
Middlings	17 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	21 00@22 00
Cornmeal	24 00@ ——
Cracked Corn	25 00@ ——

Seeds.

The same inactivity as previously noted is prevailing in the seed market, the dullness being as much due to absence of offerings as to lack of inquiry. Quotable rates remain nominally as before reported.

	Per ctl.
Mustard, Trieste	4 50@——
Mustard, Yellow	3 75@——
Flax	——@——
	Per lb.
Canary	2½@3
Rape	3 @4
Hemp	4¼@4½
Alfalfa, Utah	8½@9½

Bags and Bagging.

The Grain Bag market is showing a fair amount of activity, but the movement is not extraordinary when it is considered that harvesting is now in full blast. Prices are about as favorable to buyers as at any previous date this season, and that there will be any special changes soon is not anticipated. Business in other bags and bagging is of a light order and at generally unchanged values.

Calcutta Grain Bags, buyer July	5½@—
San Francisco Grain bags, 22x36, spot	5¾@ 5½
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5½@ 6

Hides, Pelts and Tallow.

Hides are still bringing good prices, owing not only to light arrivals, but to more than ordinary competition among a few dealers. Pelts are ruling steady, with supplies ample for requirements at existing values. Tallow is commanding much the same rates current for some weeks past, the demand being about equal to the supply.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	—@10	—@ 9
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	—@ 9	—@ 8
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

Market is firm at the quotations, with trading necessarily light, as only small quantities of new have so far arrived, and stocks of old are practically exhausted. It now looks as though this year's yield would not come up to the smallest estimates.

Extracted, White Liquid	7¼@ 7½
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	10 @10½
Amber Comb	7½@ 9

Beeswax.

Supplies of this article are of light volume and prices are fully as favorable to the selling interest as at any previous date for months past.

Good to choice, light, ₱ lb	26½@27
Dark	25 @26

Live Stock and Meats.

Beef was fairly steady, with no heavy offerings, although the demand at existing rates was not brisk. Veal continued in light receipt and was salable to advantage. Mutton brought about same figures as last quoted, with supplies and demand nearly balancing. Hog market ruled quiet, but for choice stock the tendency was more favorable to the selling than to the buying interest.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5¾@ 5¾
Hogs, small, fat	5½@ 5¼
Hogs, large hard	5½@ 5¼
Hogs, acorn-fed	— @—
Hogs, feeders	4¾@ 5
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	9 @10
Veal, large, ₱ lb	7 @ 8
Lamb, spring, ₱ lb	7½@ 8

Poultry.

Market has been rather quiet for most kinds and lacking in firmness, most desirable young stock proving about the only exception. There was a very light demand, partly on account of many people being off on their summer outing,

and sales of domestic or home product were further restricted hy tolerahly free arrivals of Eastern poultry, hoth alive and dressed.

Turkeys, dressed, ₱ lb	—	@	—
Turkeys, live bens, ₱ lb	11	@	13
Turkeys, live gobblers	11	@	13
Hens, Cal., ₱ doz	4 50	@5	50
Roosters, old	5 25	@5	50
Roosters, young, (full-grown)	6 50	@7	50
Fryers	4 00	@5	00
Broilers, large	3 00	@3	50
Broilers, small	2 25	@2	50
Ducks, ₱ doz	4 00	@5	50
Geese, ₱ pair	1 12½	@1	25
Goslings, ₱ pair	1 12½	@1	25
Pigeons, Old, ₱ doz	1 25	@1	50
Pigeons, Young	1 50	@1	75

Butter.

Much of the fresh hutter now arrivlng from the coast section of the middle of the State, and from the Southern district, is heginning to show the effects of dry feed, an experience whlch is invariahly looked for at this time of year. For hutter showing serious defects the market is decidedly weak. Some brands which sold up to top figures early in the season will not now pass for more than second grade. Where the quality of the hutter is strictly select, values are being fairly well maintained.

Creamery extras, ₱ lb	19	@—	
Creamery firsts	18	@—	
Creamery seconds	17½	@—	
Dairy select	17½	@—	
Dairy seconds	15	@16	
Dairy, soft and weedy	—	@—	
Mixed store	13	@14	
Creamery in tubs	18	@20	
Pickled Roll	18	@20	
Firkin, Cal., choice to select	18	@20	
Firkin, common to fair	15	@16	

Cheese.

The market is quiet and does not display any noteworthy firmness, although values remain quotahly in same position as noted in previous review. That prices will go lower is not probable, neither is there likely to he material improvement at any very early date.

California fancy flat, new	8½	@—	
California, good tc choice	7½	@ 8	
California, fair to good	7	@ 7½	
California Cbeddar	—	@—	
California, "Young Americas"	8	@ 9½	

Eggs.

Virtually the same conditions still prevail in the egg market as noted in former issue. Many of the eggs now coming forward are showing the effects of warm weather. This remark applies not only to the California product, hut also to Eastern. Many dealers and consumers are avoiding these eggs, even at seemingly low prices. Some which are known to he strictly choice are going to special custom at an advance on quotations.

California, seleot, large white and fresh	19	@—	
California, select, irregular color & size	16½	@18	
California, good to choice store	15½	@16½	
Eastern, as to seotion and grading	14	@17½	
Eastern, cold storage	—	@—	

Vegetables.

Supplies of most of the mid-summer varieties were of fairly liberal proportions, and prices were as a rule quite reasonable, inclining in favor of the consumer. Yellow Danver Onions sold at a decline. The season for Red Onions is nearly ended. String and Wax Beans and Green Peas were in reduced reduced receipt. Summer Squash and Green Corn were in increased supply.

Asparagus, fancy, ₱ box	—	@	—
Asparagus, No. 1, ₱ box	1 50	@ 1	75
Asparagus, common to fair, ₱ box	50	@	75
Beans, Wax, ₱ lb	2	@	4
Beans, Vacaville, String, ₱ lb	2	@	4
Beans, Los Angeles, String, ₱ lb	—	@	—
Cabbage, choice garden, ₱ 100	1 15	@ 1	30
Cauliflower, ₱ doz	50	@	—
Corn, Green, ₱ doz	8	@ 12½	
Corn, Green, ₱ sack	50	@ 1	25
Cucumbers, Alameda, ₱ large box	75	@ 1	25
Cucumbers, ₱ small box	30	@	60
Egg Plant, ₱ lb	6	@	8
Garlic, new, ₱ lb	2½	@	4
Mushrooms, Buttons, ₱ lb	—	@	—
Mushrooms, wild, ₱ box	—	@	—
Onions, Yellow, good to choice, cental	75	@	85
Onions, New Red, ₱ cental	35	@	45
Peas, Sweet, Garden, ₱ lb	3	@	4
Peas, common, ₱ lb	1½	@	2½
Peppers, Green Chile, ₱ lb	8	@	10
Rhubarb, ₱ box	—	@	—
Squash, Bay, ₱ large box	50	@	75
Squash, Marrowfat, ₱ ton	—	@	—
Squash, Summer, ₱ small box	30	@	40
Tomatoes, Los Angeles, ₱ box	75	@ 1	00

Potatoes.

The potato market has heen a little easier the current week than lmmediately prior to last issue, hut prices are still at high levels and much ahove the normal for this time of year. Small shipments of new potatoes were received from Los Angeles and other points south, relieving the market slightly. The demand is not half as large as it ordinarily is when reasonable prices are current.

Burbanks, River, ₱ cental	—	@	—
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	—	@	—
Burbanks, Old for seed	2 25	@2	50
New Early Rose	1 70	@1	90
Garnet Chile	1 50	@1	75
New Burbanks, ₱ cental	1 75	@2	20
Sweet River, ₱ cental	—	@	—
Sweet Merced	—	@	—

The Fruit Market.

Fresh Fruits.

Most of the varieties now in season are well represented on market, but it is the exception where desirable qualities are in excessive stock. The apricot season is now ahout at its height, hut market is not burdened with offerings of this fruit, nor is it likely to be during the halance of the season. There is a good demand on canning account, for shipment, and for immediate local use, market heing firm at the quotations. Peaches are commanding fully as good figures as preceding week, and as soon as later and more desirahle varieties put in an appearance, the market is likely to develop a still better condition, although high prices are not looked for, the crop being large. Fancy Clings are heing hought on the trees at $20@22.50 per ton and Freestones at $15@20 per ton. Plums are plentiful and for the most common varieties low prices are prevailing. Peach Plums, as also the Simonl variety, are proving exceptions and are hringing comparatively good prices. Tragedy Prunes are selling to very fair advantage, with offerings of the same of qulte moderate volume. Bartlett Pears are now arriving in quotable quantity and hest quantities are meeting with a firm market, with indications pointing unmistakahly to an active demand thrroughout the season for this fruit at good values. Most of the crop has been already bought up and canners are hidding $45@50 per ton for choice to select, with no prospect of many heing secured at these figures. Apples on market are mostly very ordinary, or little hetter than windfalls, while the inquiry is largely for choice, and only the latter can be relied on to sell to anything like advantage or to hring fairly good prices. Most kinds of herries ruled lower, not so much on account of heavy supplies, as the ahundance and cheapness of other frult.

Apricots, Royal, ₱ ton	40 00	@50	00
Apricots, Royal, ₱ crate	50	@	75
Apricots, Pringle, ₱ box	—	@	—
Apples, fancy, ₱ 50-lb. box	—	@	—
Apples, good to choice, ₱ 50-lb. box	75	@ 1	00
Apples, Green, common to fair, ₱ 50-lb. box	30	@	50
Blackberries, ₱ chest	3 50	@ 5	00
Cantaloupes, ₱ doz	1 50	@ 2	50
Cantaloupes, Nutmeg, ₱ box	1 25	@	—
Cherries, Black, ₱ box	50	@	85
Cherries, Red, ₱ box	—	@	—
Cherries, Royal Anne, ₱ box	75	@	90
Cherries, White, ₱ box	—	@	—
Crabapples, ₱ small box	35	@	50
Currants, ₱ chest	4 50	@ 6	00
Figs, as to quality, ₱ box	35	@ 1	00
Gooseberries, ₱ lb	—	@	—
Gooseberries, ₱ 10-lb box	—	@	—
Grapes, Seedless, ₱ crate	1 25	@	—
Logan Berries, ₱ chest	5 00	@ 6	00
Peaches, ₱ box	30	@	60
Pears, No. 1 Bartlett, ₱ 60-lb. box	1 50	@1	75
Pears, common, ₱ basket	20	@	40
Pears, ordinary, ₱ box	25	@	60
Plums, ₱ box	25	@	50
Plums, Tragedy, ₱ crate	65	@	90
Plums, Cherry, ₱ drawer	—	@	—
Raspberries, ₱ crate	—	@	—
Raspberries, ₱ chest	4 00	@ 6	50
Strawberries, Longworth, ₱ chest	5 00	@ 7	00
Strawberries, Large, ₱ chest	3 00	@ 4	00

Dried Fruits.

Offerings of Apricots, although still of small proportions, are on the increase, hut this is the only fruit on market of this season's curing, and is virtually the only variety of which actual transfers of spot stocks are heing made. Small quantities of apricots are changing hands within range of 9½@10½c, hut only on local account, unless to cover a few short sales for early shlpment, as these figures are too high for Europe or the East. In Arizona and southern California, where the Apricot crop is large but the fruit is of small size, the dried product is selling down to 8c, f. o. h. cars. It is improhahle that there will he any sales this season in this center of San Joaquin valley and northern California Apricots at as low a figure, unless of low-grade fruit. Buyers are ready and anxious to contract for forward deliveries of choice in unlimited wholesale quantities at a substantial advance on 8c. New Apples are expected on market in a few days, and first sales of Evaporated in hoxes will likely he made at ahout 10c. The Eastern Apples lately received here have heen practically all closed out. Peaches are now out of stock. There is some talk of new Peaches at ahout 8c for July delivery, and lower figures later on. Prunes of last crop are still in evidence in considerable quantity, with no movement to speak of and prices stationary.

EVAPORATED OR BLEACHED.

Apricots, Royal, in saoks, per lb	9½@10½
Apricots, Royal, fancy	—@—
Apricots, Moorpark	—@—
Apples, in 50-lb. boxes, rings, pressed, fancy	—@—
Apples, 50-lb. boxes, rings, pressed, fair to good	—@—
Figs, White, fancy pressed	—@—
Peaches, unpeeled, choice	—@—
Peaches, unpeeled, fancy	—@—
Peaches, peeled, in boxes	—@—
Pears, unpeeled Bartletts, halved, fanoy	—@—
Pears, halved, unpeeled Bartletts	—@—
Pears, quartered, unpeeled Bartletts	—@—
Plums, pitted	—@—
Prunes, in sacks, 40—50's	7 @—
50—60's	4¾@ 5
60—70's	3¾@ 4
70—80's	3 @ 3¼
80—90's	2¾@ 3
90—100's	2½@ 2¾
110—130's	2 @ 2¼
Prunes in boxes, ½c higher for 25-lb boxes, ¼c bigher for 50-lb boxes.	
4 sizes Santa Claras and equal	3¼@—
4 sizes San Joaquin and Northern	3 @—
Prunes, Silver	4 @ 7

COMMON SUN-DRIED.

Apples, sliced	—@—
Apples, quartered	—@—
Figs, Black	—@—
Figs, White	—@—
Peaches, unpeeled	—@—
Plums, unpitted	—@—

The dried fruit market on the Eastern side of the continent is reported as follows, according to recent New York advices hy mail:

There is no surplus of strictly prime dry evaporated apples and such are held steadily, but demand moderate; cboice to fancy grades are jobbing from 8½@9c, rarely higher for a few in a small way, while prime go mainly at 8¼c, possibly 8c if not strictly dry, with poorer grades lower. No sun-dried apples available. Chops and cores and skins dull, and, while choice are held steady, sour or defective are urged for sale at low and irregular figures. Cherries dull and weak, but other small fruits scarce and nominally steady. California fruit in few hands and held steadily, except large sizes of prunes.

Apricots, Cal. Moorpark, 1898, per lb	14	@16
Apricots, Cal. Royal, 1898, per lb	13	@14½
Peaches, Cal., 1898, unpeeled, per lb	9	@12
Prunes, Cal., 1898, per lb	3	@ 8½

Raisins.

This market is in all essential respects the same as for several weeks past. Business is insignificant and quotations unchanged. There are no low-grade or low-priced raisins offering, and little or no inquiry at the moment for any other sort.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—@—
Dehesa Clusters, per box	—@—
Fancy Clusters, per box	—@—
London layers, 3-crown, 20-lb box	—@1 20
London layers, 2-crown, 20-lb box	—@1 10
Valencia layers, ₱ 20-lb box	80@1 00
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	5¼@5¾
Loose Muscatel, 3-crown	4¼@4¾
Loose Muscatel, 2-crown	3¼@3¾
Loose Muscatel, ungraded	—@4
Sultanas, unbleached	—@4½
Seedless Muscatel	—@3¼
Tbompson's Seedless, unbleached	—@6
(Above prices for loose raisins are for 50-lb boxes.)	
Dried Grapes	2½@2¾

Citrus Fruits.

Orange market is very llghtly stocked with choice to select Navels, such heing hardly quotable. Good Mediterranean Sweets, Valencias and Maltas are not plentiful, but not many of these are required to satisfy the demand. Lemons are in a little better supply than last week, but values for hest qualities are heing well sustained, with demand very fair. Limes are commanding fully as good prices as last quoted.

Oranges—Navels, ₱ box	1 50	@ 3	50
Mediterranean Sweets	2 00	@ 3	50
Seedlings	1 25	@ 2	25
Japanese Mandarins	—	@—	
Grape Fruit, ₱ box	—	@—	
Lemons—Cal., select, ₱ box	3 00	@ 3	25
Cal., good to cboice	2 00	@ 2	50
Cal., common to good	1 25	@ 2	00
Limes—Mexican, ₱ box	4 00	@ 5	00
Cal., small box	75	@ 1	00

Nuts.

Stocks of Almonds and Walnuts are practically exhausted and prices for the time being wholly nominal. New paper-shell Almonds are offering for future delivery at 10c, with most huyers limiting their hids to 9c. Peanut market is firm, with few domestic arriving and Eastern held at slightly higher rates than lately current.

California Almonds, paper shell, ₱ lb	15	@16	
California Almonds, soft shell	12	@14	
California Almonds, hard shell	7	@ 9	
California Almonds, shelled	24	@27½	
Walnuts White, paper sbell	12	@13	
Walnuts White, soft sbell	12	@13	
Walnuts White, Cal., standard	9	@10	
Chestnuts, Cal. Italian	6	@ 7	
Peanuts, Cal., fair to prime	5	@ 5½	
Peanuts, Eastern band-picked	6	@ 7	
Pine Nuts	6	@ 8	

Wine.

The market is very quiet at present, but in the matter of values there is nothing to warrant making any changes in quotahle rates. With trade of a slow order, current quotations are more in accord with the prices asked than with the views of large huyers. New Claret is quotable 16@20c per gallon wholesale. Smaller quantities, especially lf selected, 22c and upward per gallon. By the term "selected" is not meant the vintage of some superior variety of grapes, hut is intended to describe any Zinfandel or other Claret which a huyer might choose, to say the extent of 1000 gallons, out of a large wine cellar. To convey this idea, the word "selections" is used for lack of a hetter term.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainahle on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are hased on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possihle the existing values. It should he remembered, however, that at times, owing to the superior merlt of offerings, undue competition hetween buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to he sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leadlng cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '98.	Same Time Last Year.
Flour, ¼-sks	109,370	5,617,795	5,240,001
Wbeat, ctls	116,427	3,203,115	10,386,562
Barley, ctls	39,096	1,368,519	4,566,712
Oats, ctls	9,945	635,479	692 240
Corn, ctls	12,265	490,392	395,408
Rye, ctls	1,420	35,515	49,901
Beans, sks	2,702	410,734	571,629
Potatoes, sks	14,089	1,125,311	1,150,802
Onions, sks	8,064	195,395	125,237
Hay, tons	2,215	133,639	125,237
Wool, bales	2,608	78,698	76,348
Hops, bales	2	11,706	9,338

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '98.	Same Time Last Year.
Flour, ¼-sks	77,900	3,757,182	3,285,560
Wheat, ctls	112,845	2,286,333	9,833,798
Barley, ctls	8,293	425,015	3,015,844
Oats, ctls	167	22,874	22,727
Corn, ctls	1,475	24,568	48,255
Beans, sks	489	86,235	171,430
Hay, bales	2,682	81,519	81,850
Wool, lbs	....	1,792,407	684,276
Hops, lbs	2,226	1,337,975	862,155
Honey, cases	40	5,574	5,513
Potatoes, pkgs	5,489	52,358	77,130

California Dried Fruit at New York.

NEW YORK, June 27.—California dried fruits: Market quiet but steady. Evaporated apples, common, 6½@7c; prime wire tray, 8¼@8½c; cboice, 8½@8¾c; fancy, 9@9½c.

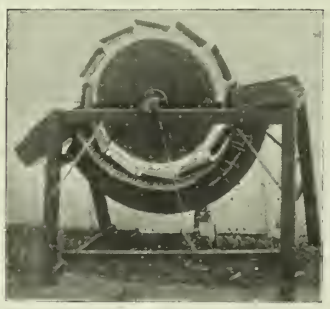
Prunes, 3¾@8½c.

Apricots, Royal, 14@14½c; Moorpark, 15@18c.

Peaches, unpeeled, 10@13c; peeled, 25@28c.

MOORE, FERGUSON & CO.
WOOL, GRAIN, FLOUR
—AND—
General Commission Merchants,
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Leading Dip of the World Sixty Years.
USED ON 150,000,000 YEARLY.
Not a refuse product of tobacco or dye factories.
A sheep dip invented and made specially for sheep.
You are asked to use it because it is the best.
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It is free from objections so common in others.
It cures without injury. No smell.
General Agents, SHOOBERT-BEALE CO.,
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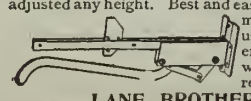
To Apple Packers!

The Tangent Fruit Brushers,
Pat. March 8, 1898, and April 11, 1899.
These machines will put a high polish on apples and greatly improve the appearance of the fruit, without any injury, and at a very slight expense.
CIRCULARS ON APPLICATION.
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makes every bale of exactly the same size—and can do very compact work. With 50-inch feed hole—large feeds can be put down without using the foot. Light draft on the road or at work.

They are built unusually strong. Don't buy until you get our circulars and prices. Sent upon application.
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"A MOLE on the Neck, Money by the Peck."
but there is no money in having a mole in your garden or on your lawn. Don't have them. Catch them with the
"OUT-O-SIGHT" Mole Trap.
Every trap has our guarantee to catch.
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A NEW BOOK.
California Vegetables IN Garden and Field.
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A Practical Guide to Success in California. Large 8vo., fully illustrated.
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THE FIELD.

Our Export Products.

Good crops in all the world in the year 1898–99 will probably make our export figures for the fiscal year to end June 30 a few million dollars less than those of the banner year 1898. The figures covering the exports during the eleven months ending with May, which have been received by the Treasury Bureau of Statistics, indicate that during the eleven months the total exports are about $6,000,000 less than those of the corresponding months of the preceding year, and it is probable that the total for the full year will be slightly below those of the great and unprecedented year 1898. That they will be much in excess of any other year, however, is equally apparent. For the eleven months of the fiscal year 1899 the total exports are $1,130,629,572, while in no earlier year except 1898 did the total exports of the eleven months reach the billion dollar line.

For a Decade.—The following table shows the total exports from the United States in each year from 1889 to 1899 in the eleven months ending with May:

Year.	*Amount.*
1889	$ 694,133,804
1890	801,717,334
1891	826,836,076
1892	965,389,811
1893	782,218,625
1894	834,676,085
1895	752,569,335
1896	815,901,067
1897	977,800,522
1898	1,136,503,607
1899	1,130,629,572

Values.—A detailed study of the figures received by the Treasury Bureau of Statistics shows that the reduction in exportations is entirely in agricultural products, and, indeed, that the total export of products of agriculture is nearly $50,000,000 less than that of last year. In 1898, it will be remembered, the crops in all parts of the world except the United States were unusually light, and as a consequence the prices realized for farm products exported were much higher than the average for many years, while in 1899, with good crops abroad, the prices which our exporters of farm products are receiving are consequently materially lower than those of last year, though in quantity the exports of agricultural products are in most cases as great as those of 1898. The average price of wheat exported in the present year, so far as the details have been received, has been 74½ cents per bushel, against 93½ cents in the corresponding months of last year. Flour also shows a reduction in value per barrel, while the average export price of cotton in the present year has been 5½ cents per pound, against nearly 6 cents per pound last year. In quantity the exports of wheat in the ten months whose figures are completed was slightly in excess of that of last year, while flour in the ten months of 1899 exceeded by more than 2,000,000 barrels the figures of the corresponding months of last year. In corn and oats there has been a decided reduction, indicating that the demand of other parts of the world upon us for these lines of our production is still regulated to a considerable degree by their absolute demands occasioned by their shortage in other lines of breadstuffs.

In wheat the reduction in value of exports in the ten months whose figures are completed amounts to $22,000,000; in oats, to $10,000,000, and in cotton, to nearly $20,000,000, there being a slight falling off in quantity of cotton exported as well as in the value per pound. In bacon there has been a reduction in the quantity of exports, but this is more than made up by an increase in the exportation of hams and fresh pork, due to the improved methods of transportation of fresh meats.

Increased Home Consumption.— One curious feature in the reduction of our exportations relates to live cattle, in which the exportations of the year are 25% below those of the corresponding months of 1898, the total for the ten months being $24,484,823, against $32,352,833 last year. Consultation with collectors of customs as to the cause of this reduction results in the suggestion that the improved business conditions in the United States and increased wages are leading to a much greater consumption of beef by our own people, and consequentiy an increased price, and that that increase in price is the cause of the reduction in foreign demands upon us for our beef cattle. In other lines of provisions, however—such as salted beef, tallow, hams, fresh pork, lard, oleomargarine, poultry and milk—there has been an increase, the total exportation of provisions in the ten months whose figures are completed being about $8,000,000 in excess of that of last year, or sufficient to offset the loss in the exportation of live cattle.

The Home Market the Best Market.—While the exportation of farm products for the year will fall perhaps $50,000,000 below the total for last year, it does not follow that the farmer has failed to realize as much for his productions during the past year as in the preceding year. On the contrary, a study of the export figures indicates that the prices which he has received for practically everything except wheat and cotton are higher than those of the preceding year. This is probably due to the increased consumption among our own people, due to increased activity and advanced wages.

In nearly all articles of farm products aside from breadstuffs and cotton, of which there is a constant production in excess of home demands, the prices offered at home determine those at which exportation takes place, and a study of the figures of the year's exports of agricultural products shows that in nearly every article aside from wheat and cotton the export price per unit of quantity has been larger than in the preceding year. In butter, lard, fresh pork, bacon, canned beef, corn, cornmeal, oats, oatmeal, rye, hops, sheep, tobacco, and other articles, the export figures of the year show increased prices, thus indicating that in practically all agricultural products aside from wheat and cotton the prices received by the producers have been higher than those of last year, while, on the other hand, the increased exportation of manufactured articles has nearly offset the loss in exports due to the reduced prices abroad of the two great articles of our agricultural exports, wheat and cotton.

Farm Wagon for only $19.95.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, sold at the low price of $19.95. The wagon is only 25 inches high, fitted with 24 and 30-inch wheels with 4-inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogus giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

$100 Reward, $100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is Catarrh. Hall's Catarrh Cure is the only positive cure known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of testimonials.

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Hall's Family Pills are the best.

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Rules Concerning Reservoir Sites.

WASHINGTON, June 24.—New regulations for the control of the entry of reservoir sites on the public land will soon be issued by the Interior Department. The Secretary of the Interior has been considering the necessity of additions to the regulations formerly issued under the Act of January 13, 1898, relating to reservoirs for live stock. The law and the regulations issued under it have been greatly abused by repeated locations of those who seek to monopolize the public lands to the exclusion of those who want to locate homes. In one instance in Kansas one person located several hundred contiguous tracts as reservoir sites. In a limited section in one county in Nebraska 800 locations were made.

The new regulations will limit the right to these sites to those actually engaged in breeding, grazing and handling stock, and then to the actual necessities of each applicant. They will also provide that if a reservoir site is fenced, or if an attempt is made to use it for any other than reservoir purposes, the right to it shall be canceled immediately. It will be the purpose of the new regulations to afford under the law ample water facilities for all who really need them for live stock and to effectually prevent abuses.

Another Irrigation District Invalid.

RIVERSIDE, June 21.—Another irrigation district, and the last one in this county, has been declared illegal by a decree of the Superior Court of this county. Judge Noyes handed down a decision to-day declaring the San Jacinto and Pleasant Valley irrigation district void and the bonds illegal upon the ground that the district was not legally formed, for the reason that the required notice of formation of the district was not published as required by the Wright law.

The district was organized in 1891 and embraces 18,000 acres. There was voted $350,000 worth of bonds and $223,500 worth sold. There is due and unpaid on account of interest $10,000, and the total indebtedness of the district is estimated at $20 an acre.

A VERY interesting pamphlet in the interest of Guernsey cattle has just been published by W. H. Caldwell of Peterboro, N. H., secretary of the American Guernsey Cattle Club. It is well illustrated and contains much explicit information. It can be had on application to Mr. Caldwell.

The McCormick is "The Best in the World."

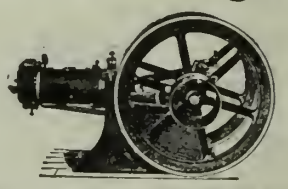
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A NEW DEPARTURE.

LIVINGSTON, CAL., April 15, 1899.

Mr. I. L. Burton.—DEAR SIR: I am satisfied that the windmill and your 3-in. Centrifugal Pump is all right. With a good wind it throws sand and water from 1 ft. to 2¼ ft. above pipe. Draws well down 10 ft., making 32 ft. lift. This ought to sell several more for this use. Yours truly, C. F. BLEWETT.

DR. FAULKNER of Salinas writes: "Your 8-in. Centrifugal Pump is the grandest success ever seen."

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on your best harness, your old harness, and your carriage top, and they will not only look better but wear longer. Sold everywhere in cans—all sizes from half pints to five gallons.

Made by STANDARD OIL CO.

Preparations for the State Fair.

The State Agricultural Society met last week at the new pavilion in Sacramento, President A. B. Spreckels presiding. There were present, besides the president, Directors Frederick Cox, A. W. Barrett, Grove L. Johnson, F. W. Covey and D. E. Knight.

The Sacramento Chamber of Commerce offered the co-operation of the citizens of Sacramento for the purpose of insuring the success of the Fair. The citizens of Sacramento are anxious that they be permitted to lend what assistance they can to the State Board in the matter.

The committee was favorably received by the directors, who decided that a committee be appointed to act with the committee from the Chamber of Commerce and the State Board of Trade, with that end in view. As such committee the president appointed Directors Cox, Terry and Johnson.

In view of the probability of Secretary of Agriculture Wilson visiting this coast this summer, the society instructed its secretary to invite the secretary to attend the Fair.

COMMITTEES APPOINTED.

President Spreckels appointed the following committee:

Executive — Barrett, Cox, Wilson, Henshaw and Terry.

Printing and Publication — Covey, Knight and the secretary.

Finance—Cox, Mathews and Barrett.

Library—Johnson, Chamberlain and Cobb.

Speed Programme—Covey, Henshaw and Barrett.

Legal—Henshaw, Johnson and Mathews.

SPECIAL COMMITTEES.

Thoroughbreds — Terry, Henshaw and Wilson.

Standard Trotters—Covey, Knight and Barrett.

Roadsters — Johnson, Wilson and Cobb.

Draught Horses—Chamberlain, Knight and Terry.

Jacks, Jennies, Etc.—Knight, Wilson and Chamberlain.

Cattle—Durham—Cox, Mathews and Johnson. Holstein, Etc.—Cobb, Chamberlain and Barrett. Herd Sweepstakes—Cox and Mathews. Dairy—Knight.

Sheep and Goats—Chamberlain, Wilson and Johnson.

Swine—Knight, Henshaw and Covey.

Poultry—Mathews, Cobb and Henshaw.

Chamber of Commerce—Cox, Johnson, Terry and the secretary.

Upon the suggestion of President Spreckels, and upon motion of Director Barrett, the secretary was instructed to have an architect examine the foundation of the grand stand at the race track, with a view of making any repairs necessary.

The secretary was instructed to request Professor J. W. Withycombe of Oregon to accept the appointment as judge of all the animal classes except horses at the coming Fair.

LIEUT. A. P. HAYNE, who went to Manila charged to report upon agricultural affairs in the Philippines, has transmitted a partial report to the U. S. Department of Agriculture, in which he takes rather a gloomy view of the agricultural outlook there. The soils are rich, but the agriculturist is confronted at the start with the necessity for an immense amount of work in clearing new land. When this is accomplished and a luxuriant crop raised it is at the mercy of the first typhoon. Besides the typhoon, there is to be feared in certain provinces the "dagudo," or dry land wind, which dries up and destroys vegetation. Diseases so far hardly known to European doctors result from the turning up of this virgin soil. According to competent medical authorities many of these strange diseases cause death within a few hours, while from others, even if the patient recovers, he is condemned to a wretched and lingering existence. Another of the great difficulties in the way of development is the utter lack of roads and shipping points. The available labor supply is of the worst possible description. The native Filipino is unable to do any large amount of work, and cares to do less. He is indolent and given to gambling. All these vices have to be taken into account in any undertaking where labor is employed.

Santa Barbara Crops.

TO THE EDITOR:—Our crop prospects are not very flattering, but they are better than last year. We have a small crop of hay now, where there was none last year. We are very glad to think we will not have to import hay all the way from Washington and Kansas.

So far cool, foggy weather has prevailed most of the time, which has been of much benefit to the growing crops. Hay has been damaged but little, and sunny weather will soon fit it for the barn or stack.

The apple crop will be very light; same with peaches; apricots promise better. Some varieties of pears are looking well.

Some apple trees are not in leaf and seem to be thinking whether it is best to wake up this season.

Beans and corn are looking fairly well, but much depends on the weather during the growing season about the result. O. N. CADWELL.

Carpinteria.

List of U. S. Patents for Pacific Coast Inventors.

Rsported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING JUNE 3, 1899.

626,882.—FLUSHING TANK—E. B. Badlam, S. F.
626,962.—HANGER FOR GRINDSTONES—F. M. Bird, Wenatchee, Wash.
626,805.—RATE CABINET AND INDEXER — F. E. Coates, Montpelier, Cal.
626,966.—WEED PULLER — J. Conzett, Ferndale, Cal.
626,968.—CIGAR HOLDER — H. H. Coote, Bisbee, Ariz.
626,753.—PORTABLE BOOTH — J. W. Ernest, Los Angeles, Cal.
626,682.—GATE—A. Field, Portland, Or.
627,076.—MAGAZINE BINDER—G. S. Glover, S. F.
626,807.—GYRATING PENDULUM—F. Gundorph, S. F.
627,060 —SMOKE CONSUMER — A. Herberer, Alameda, Cal.
626,809.—TELEPHONE REGISTER—Hock & Happersberger, S. F.
627,081.—COPYING PRESS — B. Phelps, Seattle, Wash.
627,082.—BENCH STOP—B. Phelps, Seattle, Wash.
626,777.—FISHING HOOK—H. Slotterbeck, Los Angeles, Cal.
627,025.—CAR THERMOMETER — W. Turner, Wenachee, Wash.
626,801.—VEHICLE ATTACHMENT.—S. Wyatt, S. F.
627,037.—BURGLAR ALARM—Wybro & Danley, S. F.
32,005.—DESIGN, WRENCH—C. W. Cookson, Wilmington, Cal.
31,003.—DESIGN, SNAP HOOK—W. P. Murphy, San Jose, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

VEHICLE ATTACHMENT AND HOLDING DEVICES.—Samuel Wyatt, San Francisco, Cal. No. 626,801. Dated June 13, 1899. This invention relates to a device which is designed to hold the reins when a team is to be left, also to carry a lantern if desired at night. It consists of vertical standards having slots in the upper end for the attachment of the reins, and a means connected with the wheel hubs by which the shafts may be rotated if the vehicle is started, and thus wind up the reins and exert a sufficient pull to stop the horses. The upper end of the device may be provided with a suitable standard to receive a lantern or other appurtenance of the vehicle.

FLUSHING TANK FOR CLOSETS.—E. B. Badlam, San Francisco, Cal. No. 626,882. Dated June 13, 1899. This invention relates to an improvement in tanks connected with apparatus where it is desired to periodically discharge a definite body of water for the purpose of flushing the apparatus. It consists essentially of a siphon pipe having one end connecting with a discharge and the other terminating interior to the tank and near the bottom. Holes are made upon and above the bottom of the pipe, a cylinder having open connection with a jet nozzle which stands within the interior lug of the siphon, and a plunger is freely movable within the cylinder having connections by which it may be forced down to charge and start the siphon, a counterbalance weight of less power than the suction produced by the siphon retains the plunger at the bottom of the cylinder until the water in the tank is low enough to expose the openings above the bottom of the siphon leg, when the siphon will be broken and the tank will be allowed to refill the apparatus, thus working automatically after it has been started by the movement of the piston within the cylinder.

TREE AND VINE PULLER.—E. P. Boden, Santa Clara, Cal. Reissue 11,474. Dated June 13, 1899. The object of this invention is to provide an apparatus by which the stumps of all small trees, vines, bushes, etc., may be removed with ease and rapidity. It consists essentially of a frame mounted upon wheels adapted to be moved over the ground, a truck or traveler movable longitudinally upon the frame having means connecting it with the stump and means whereby an upward pull from the traveler is applied to lift the pump when the main frame is moved longitudinally along the ground with relation to the traveler and the stump.

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FRUIT MARKETING.

Refrigeration Rebates on Fruit Shipments.

To the Editor:—Some months ago you kindly published a letter from me exposing the system of rebates on refrigeration and transportation charges. I then stated that rebates as high as 50% had been obtained by the favored few. At one of the late conventions held in Sacramento, Mr. Gibbs stated that as much as 85% rebate had been going. So I was well within the mark.

I had previously written to several large growers and all assured me they had not been so fortunate as to share in these rebates. Not only had they had no share in these rebates, but they had been charged the full commission on the full charge for refrigeration, etc. If the new corporation of growers that Mr. R. D. Stephens is now trying to form can do nothing more than save the rebates and the commissions charged thereupon to the growers, they will in a single year put a million dollars into the pockets of the growers, where those dollars belong.

That refrigeration charges have been based, not on the cost of the service, but on the principle of "all the traffic will bear," may be judged from the fact that the Canadian Pacific R. R. has just arranged for a refrigeration service from Vancouver City, on certain Eastern-bound freight in small parcels (less than carload lots), the charge to be only 10% on the transportation charges. On this basis (and mark it is a retail basis, of just a single box, or a dozen boxes) a car of fruit, paying say $350 for freight, would only pay $35 for refrigeration.

Fruit growers can see, from this rate on a car perhaps only half filled with freight, something of what the actual cost of the refrigeration service must be. In all probability it is not 5% on the transportation charge: or a car of fruit paying $500 freight should not pay more than $25 for refrigeration.

It is most certainly thoroughly worth while for fruit growers to try to help themselves by arranging for the refrigeration of their own fruit on a basis of the cost of the service instead of submitting to the old ruinous cinch of "all the traffic will bear."

Edward Berwick.

Monterey, Cal., June 25, 1898.

Eastern Fruit Reports.

The New York section of the Weather Bureau, date of June 19, says: The general outlook for fruit is less promising than heretofore; considerable dropping is reported; cherries are ripening with promise of a plentiful yield, some of the early varieties now being on the market; the prospects for peaches are less than fair; apples are more promising, but in some of the northern counties the supply will be light; in many sections strawberries are plentiful and of fine quality, but the injury to this crop by the dry period has been marked, and many report prospects for a light yield.

New Jersey section, June 20, reports: Orchard fruits are dropping freely, and the twig blight on apple and pear trees is increasing, especially in the southern orchards.

Kentucky section, June 20, says: Fruit is not very satisfactory. There was a good crop of strawberries, but they are now about over; and other fruits are rather scarce. Apples and pears are falling badly.

Arkansas section, June 20, says: Fruits of all kinds will be scarce. Melons are late.

Georgia section, June 19, says: Melons are being shipped, but are smaller than usual on account of so much dry weather at critical periods. The berry crop is short and inferior.

Missouri section, June 20, says: Apples are still dropping in most sections.

Fruit Sales at Various Points.

Hanford, June 22.—A. V. Taylor had one tree of Royals from which he picked twenty-one 40-pound boxes of ripe fruit, making 840 pounds net. That one tree brought him, at the price for which he sold his crop, $32.50 per ton, just $13.65. Many of his trees yielded 500 pounds each, and he had in all twenty-five tons.—Sentinel.

Mountain View, June 23.—M. E. Lovejoy has bought apricots of the following persons, paying the price noted per ton, delivered at the depot: Z. T. Croop, whole crop, $40; Greenwood & Culver, $42 50; R. C. Kirkwood, whole crop, $42.50; B. Distel, L. Distel and Quinland, whole crop, $42.50; Jos. Fitzell, $42.50; M. S. Loucks, $45; and Arthur Preston, E. W. Horton, J. Regli, Barney Job, H. O. Colopp, Peter Herkes, Thomas Carney, J. A. Gamble and E. Matthews on Scott place at prices not given. Lovejoy says that apricots are falling badly in some sections and that in others they are cracking.—Register.

San Jose, June 17.—Canners seem to have a present supply of apricots and will only take the fruit at a reduction from prices previously paid. Freestone peaches are bringing $20 for common sorts. Muirs when fairly good are bringing more, and $25 and over is being named for Salways. We have heard of $35, but cannot locate the sale. Cling peaches will vary with the variety and quality, present rates offered being $35, $40 and $45. Bartlett pears are pretty well picked up at prices previously quoted.—Mercury.

Vacaville, June 24.—John Sackett has bought the entire crop of St. John peaches for 50 cents a box and 60 cents a package grown on Mr. Derby's Winters ranch. This is the highest price heretofore realized for St. John peaches realized in this locality.—Reporter.

Marysville, June 23.—Horticulturists of this section are anxious regarding the prices they are to receive for their fruit this season. The managers of the canneries have told them that they had instructions to make no figures on fruit crops before July 8. One grower said to-day: "I take that to mean that the combine has a scheme to hold off until the fruit is thoroughly ripened on the trees, and consequently in a condition that will force the grower to dispose of his product at the first opportunity. Early in the season we were led to believe choice peaches would bring $45 and $50 a ton, but now we are told we must consider ourselves in luck if we get $30 or $35 a ton."

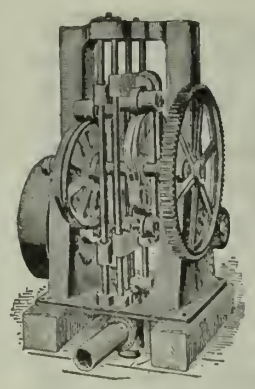
Antioch, June 24.—James O'Hara, who lives near Brentwood, has disposed of his entire apricot crop for $50 a ton, delivered at Brentwood. The Benicia Cannery Company is the purchaser.—Ledger.

Pomona, June 21.—Good, large 'cots are in great demand right at home. J. L. Carpenter, on South White avenue, near Twelfth, has seven to ten tons of beautiful, clean Royals and about ten of Moorparks of sizes which are suitable for canning. G. H. Waters & Co. have offered him $30 per ton for all except the product of seventeen trees.—Times.

Oroville, June 22. — Young Joe Gardella received a telegram from San Francisco night before last for a ton of apricots, and the price offered was $80, or 4 cents a pound. It is evident that apricots are very scarce when such prices are offered. Another telegram was received the same day from a city firm, but no stated price was offered for the 'cots.—Register.

Los Angeles —The crop of Arizona cured apricots amounted to seven cars. They are all sold, the price being confidential. It is generally understood, however, that 10½ cents was the figure. The first car was shipped May 13, with the second one going forward on June 13. The balance will go forward this month. In southern California the cool weather has held back the ripening of the fruit. Driers are asking 9½ cents for June shipment. It is not expected that over five or six cars will be shipped during June.—Fruit World.

Cunningham & Barngrover of San Jose and Los Gatos, Cal., have invented a new fruit grader on which they received a patent on June 20th, comprising horizontal frames placed in line and provided with grading compartments, which will doubtless win popular favor. Messrs. Cunningham & Barngrover have found it necessary to again enlarge their factory, and consider the present outlook and demand justifies expectation of a big year's business. They are just now pushing the San Jose dipper, and keep a general line of fruit driers' and packers' requirements. A postal to 338 West Santa Clara St., San Jose, will bring you their latest catalogue.



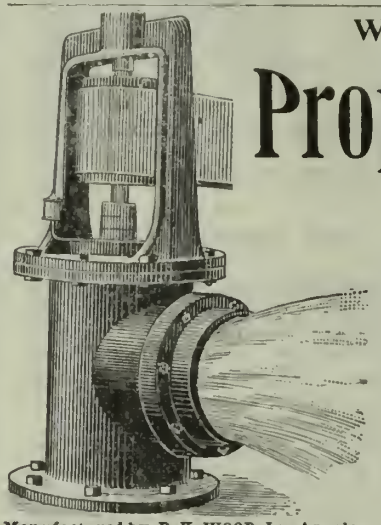
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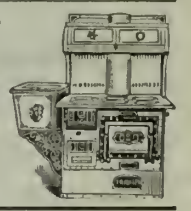
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Washington State Grange.

The Washington State Grange met last week at Mount Pleasant. The local Grange, assisted by the members from Washougal Grange, gave entertainment to the State body and visiting members at their homes.

The following officers were elected: M., A. High; O., W. J. Spillman; Lect., N. Ennis; S., R. D. French; A. S., E. A. Bailey; Chap., R. Russell; Treas., Mr. Smiley; Sec., Frank Briggs; G. K., Anton Kepp; Pomona, Ida Konig; Flora, Fannie Chandler; Ceres, H. E. Wing; L. A. S., Mary E. Hogan; Ex. Com., Jas. Wheelhouse and C. J. Moore; Trustees, Wm. Cahill, J. O. Wing and D. L. Russell.

The officers were installed by P. M. Russell, assisted by Sister Hilleary, wife of the Worthy Master of the Oregon State Grange.

The address of welcome was delivered by D. L. Marble. State Master High delivered a masterly address on important questions.

One of the most interesting topics of the whole proceedings was an instructive address by Prof. Spillman of the Pullman Agricultural College, in which he gave many valuable suggestions regarding experiments being made at the institution and how the farmers could avail themselves of its privileges.

Resolutions were adopted against prosecuting the war upon the Filipinos; recommending improvements in public highways; opposing large appropriations for private corporations and ship building; favoring election of United States Senators by direct vote and favoring rural mail delivery.

Oregon State Grange.

The Oregon State Grange held its annual meeting at Portland from May 23d to 25th, with about 300 present. Reports showed material advancement all along the line. Membership is growing fast, the better class of farmers showing more interest in the Order, and many who refused to come in a few years ago are now seeking admission. Five new Granges have just been organized in Whitman county. There are sixty-two Granges in the Willamette valley, with over 2400 members. There is only one Grange in eastern Oregon, but others are soon to be organized. The work of the college at Corvallis was commended, and its growing tendency to become more and more a college of agriculture and a benefit to farmers. The fire insurance department has been in operation fifteen years; the amount now covered is $600,000. There have been eleven losses in all, amounting to less than $8000.

Healdsburg Grange.

According to the *Tribune*, at the last meeting of Progressive Grange, thirty-one candidates were initiated.

The date of holding the mass meeting of fruit growers was definitely set for Saturday, July 1st, at Truitt's Theater. Every fruit grower in northern Sonoma is invited to attend. Invitations have been sent to the Granges in the county.

The session of the Grange on July 1st will begin at 10 o'clock A. M., and at the close of the initiation ceremonies a Harvest Feast will be given in Fox's Hall.

A social hour for the young members will be a feature of the Grange in the future.

Napa Grange.

According to the *Register*, at a meeting of Napa Grange on Saturday, C. G. Bates was elected a member.

The Committee of Arrangements for the State Grange has secured the lower hall in the Masonic Temple for the State Grange meeting.

The Grangers held forth at the Salvador schoolhouse Monday evening. J. S. Taylor, J. C. Carroll and A. Warren Robinson delivered well-timed addresses and Misses Fannie Crystal and Vanza McCash sang several selections. Ice cream was served, and altogether a most enjoyable and profitable evening was spent.

These meetings are proving beneficial to the Grange, whose membership is rapidly increasing.

San Jose Grange.

The San Jose Grange met last Saturday. The session was presided over by Master Leigh, states the *Mercury*.

A letter from Congressman Loud was read thanking the Grange for their expression to him for his labor of carrying the Alviso slough appropriation through.

Last Thursday afternoon the San Jose Grange, as many of the members as could, went over to Los Gatos and attended a meeting of the newly installed lodge at that place. Master Leigh was present and gave them instructions in the second degree work.

The Pacific Coast Fruit Growers' Association sent in a communication asking the Grange to give them a list of names of men who would be competent to act as collectors for the association.

A little time was devoted to the discussion of fruit prospects. Silver prunes were reported as likely to fetch a good price. Many thought that the prune crop would be larger this year than last.

The question of the fees of county officers was taken up and discussed by Brothers Lee, Childs, Hurlburt and Jones. It was the unanimous opinion that the charges of all fee officers were too high, and some measure should be taken to obtain reduction on the same.

At their meeting next Saturday they will take up the subject of entertaining the representatives of the agricultural colleges who are to visit this State next month and arrange for the same.

It was further arranged that at the meeting in two weeks Professor Rattan should give the Grange a talk on useful plants.

A short talk was given by Professor Rattan on the may root. He told how bitter it was to the taste, and said that it contained a large amount of starch, enough to keep a man alive for several days. His information on the subject was supplemented by that of Brother Woodhams and others.

Petaluma Grange.

According to the *Argus* the monthly social of the Petaluma Grange took place Thursday evening at Gross' hall. The programme consisted of the following: Recitation, Miss Neva Lacque; recitation, Miss Orlean Park; "Mother Goose Lancers," Forrest Williams, Miss Gladys Toker, Otto Long, Miss Jennie Offut, Roy Long, Miss Orlean Park, Keith Deegan, Miss Reta Cassiday.

The latter feature was quite unique, the little folks in quaint costume tripping lightly the mazes of the dance.

The remainder of the evening was spent in dancing and refreshments.

Tribute to the Memory of A. T. Dewey.

Tulare Grange, at its meeting June 12th, adopted the following:

Resolved, That in the death of Alfred T. Dewey the Order in California loses a brother who was always active and zealous in his work as a Granger, ever ready to succor the needy and distressed of the fraternity, prompt to advance the interests of the Order, devoted to its welfare and prosperity, wise in counsel and fearless in action; an honest, upright citizen, whose virtues endeared him not only to his brothers and sisters of the Order, but to his fellow citizens.

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Wheat Shipments.

The Government report shows exports of wheat from the ten principal ports of the United States, from July 1, 1891, to June 1, 1899, and for the corresponding period in the previous season, as follows:

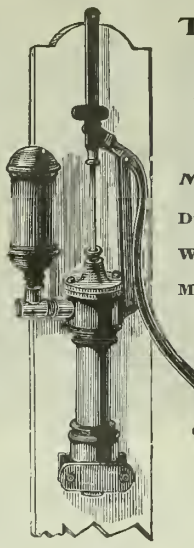
Wheat shipments for the eleven months ending June 1 were:

	1899. Bushels.	1898. Bushels.
New York	39,932,024	27,557,946
Baltimore	14,632,303	20,721,098
Galveston	13,833,960	10,308,497
Boston and Charleston	13,178,307	7,680,221
New Orleans	11,699,599	16,047,259
Portland, Or.	9,623,976	12,396,365
Philadelphia	5,899,538	5,470,218
Puget Sound	5,304,264	7,946,732
Superior	4,728,993	1,475,656
San Francisco	3,018,309	16,113,553

Flour shipments for the same period were:

	1899. Barrels.	1898. Barrels.
New York	4,351,364	4,577,291
Baltimore	3,038,501	2,452,728
Philadelphia	2,027,610	1,139,645
Boston and Charleston	1,670,703	1,249,235
Newport News	1,597,217	1,612,486
San Francisco	863,698	765,889
Portland	695,064	598,232
Puget Sound	586,249	556,365
Superior	511,827	159,617
New Orleans	357,445	375,400

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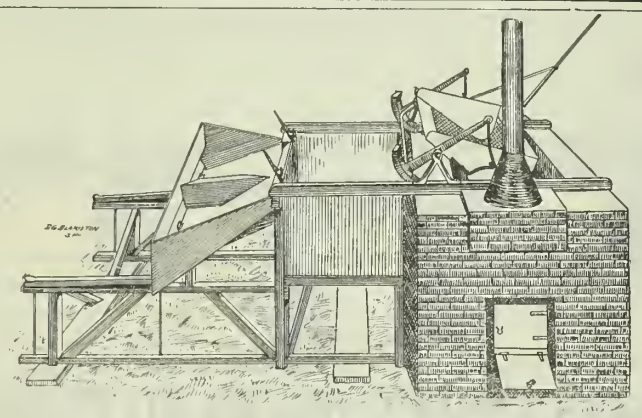


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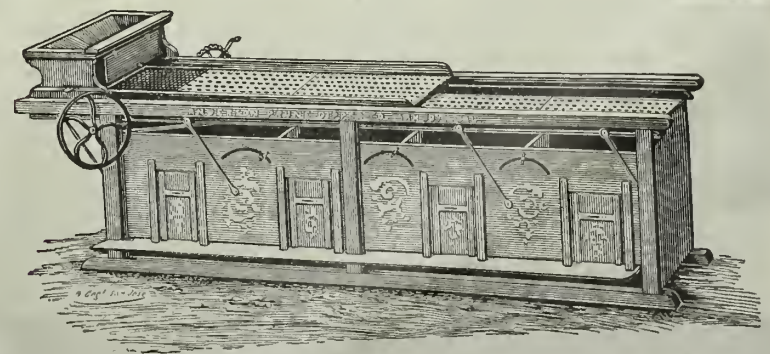
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Anderson Prune Dipper Co., San Jose, Cal.—GENTLEMEN: The large-sized Combination Prune Dipping Machine, which we purchased of you last season for our Healdsburg plant, I consider the best machine at the present time for handling green prunes, both in labor saving and the thoroughness of its work, covering all points necessary of a machine of this kind
Yours respectfully, PORTER BROTHERS COMPANY,
By CHAS. B. BILLS, Manager.
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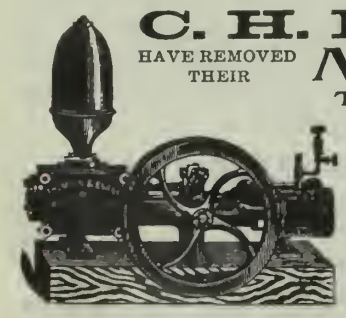
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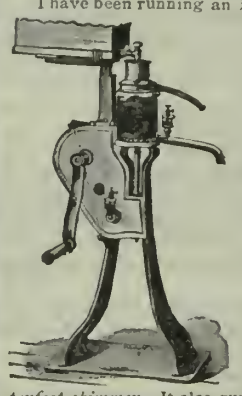
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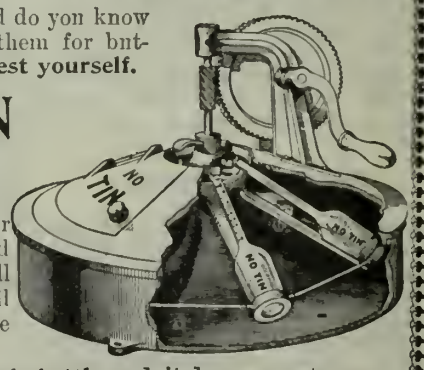
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AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII No. 2 SAN FRANCISCO, SATURDAY, JULY 8, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

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European Lupins in California.

We have often alluded in the PACIFIC RURAL PRESS to the systematic experimentation pursued by the University of California Agricultural Experiment Stations to determine what plants are best in this State for winter growth and spring plowing-under to reinforce the humus of the soil by their decay. It has been remarked that green manuring in California must proceed upon the basis of winter growth, because then only can the moisture be spared for such growth and its plowing-in be done without danger of moisture losses by evaporation. It has also been shown that the chosen plant must be a legume, because legumes only have the power of taking moisture from the air by the agency of tubercles of bacterial origin which form on their roots. A legume, then, which can endure our winter frosts and vegetate freely at our ordinary winter temperatures, and deeply root in the soil for its aeration and enrichment, is a desideratum. Various plants are being tried in the hope of reaching all these characters, and the demonstration is not yet complete. The interesting genus *lupinus* is being especially tested just at present. There are California species, but trial



LARGE BLUE LUPIN AT FIRST AND SECOND FLOWERING.

with them disclosed a disposition to grow too late in the season. They delight to grow in the spring and to hold their brilliant flowers fresh far into the dry season, but spring growth will not do for plowing-in where the rainfall is scant and the danger of having the soil out of condition all summer from late plowing is great. It was, however, noticed in the botanic garden at the University that certain European lupins behaved differently. When sown in the fall they made quick and rank winter growth, while the California species were waiting for more warmth. This fact indicated their possible value for green manuring, which the University is endeavoring to demonstrate. In the nature of a report of progress in this line there has just been published Bulletin 124 of the University Experiment Station by J. Burtt Davy, assistant botanist, with an introduction by Prof. Hilgard, Director of the Station. The engravings on this page will serve to indicate the nature of the undertaking in some of its phases. The plants will be readily recognized as lupins by their general resemblance to their relatives—the showy wild flowers of California valleys and hillsides. Their rank growth of leaf and stem shows that a large weight of organic matter must go into the soil as the plow covers them. The first



PINK LUPIN AT FIRST AND SECOND FLOWERING, ALSO ROOT SHOWING TUBERCLES.

engraving shows more than this. The central figure has a root thickly encrusted with tubercles. In these are the colonies of bacteria which can assimilate atmospheric nitrogen. Of the several kinds grown the pink lupin seems to be best supplied with tubercles.

The large blue lupin, of which an engraving is also given, is the species which, according to the University experiments, seems to promise best results—at least for heavy, calcareous soils. It is very succulent and therefore likely to decay readily in the soil; it has large and abundant foliage and covers the ground well, and it branches freely. It is well supplied with tubercles—in fact, is better in this respect than all the others tried, except the pink. It has endured a temperature of 29.9° Fahr. without injury.

The other engraving shows the garden plots in Berkeley, where the plants have been under close observation. From these plots seed is taken for field trial either at the University or on the lands of those who volunteer to assist in local experimentation.



Pink Lupin. Small Blue Lupin. Yellow Lupin.

LUPINS IN THE UNIVERSITY BOTANIC GARDENS IN BERKELEY, CAL.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, July 8, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The leading agricultural event of the week is the assembling in this city of the Association of Agricultural Colleges and Experiment Stations, whose coming has been foreshadowed in our columns. As we go to press on Wednesday, the meetings are opening with about 100 delegates present from all parts of the country, and they are being cordially received by a group of interested Californians. The meetings will fill the remaining days of the week, and there will be late arrivals of delegates, so that it is impossible at this moment for the PACIFIC RURAL PRESS to do more than add our welcome and congratulations to the volume which is hourly increasing and lay aside all characterization of the event until it assumes more definite form. It is clear that the whole of next week will be occupied with the excursions of the visiting delegates, through the valleys from Petaluma to Ukiah, through the San Joaquin to Fresno and the Sacramento as far as Oroville, along the San Joaquin river by steamer, through Santa Clara and Salinas valleys to Del Monte, etc. There may be other trips of instruction, but these are in sight as we write. Much interest and cordiality is being manifested, and the affair promises to be a great success throughout.

Leading cereals are looking better. Shipping wheat has advanced a little and is in better tone. There are now sixteen ships on the charter list for grain—more than at any one time for more than a year. The first ship of the crop year has gone to sea, which is beginning early. Barley has gained a little more per ton than wheat and has now good shipping inquiry. Oats are temporarily higher in present lack of supplies. Corn is unchanged. Choice hay is moderately firm: storing has hardly begun yet but is just at hand. Mill feeds are quiet; ground barley is higher in sympathy with the general market. Beef in firm at the old price; mutton is scarce and looks upward; packing hogs are in good shape. Butter is firm for choice with some upward talk, but the price is now just about at the Eastern equivalent and an advance would bring Eastern butter rolling in. Eggs are quiet and consumption light. There are too many poor eggs now in to favor advance, which may soon be expected, however. Poultry is a little better for the choicest lots—young and old. Wool is strong and firm but less active, for most has been sold and the balance is firmly held. Beans are in good shape, and potatoes are still at 2c wholesale—too high for consumers to dispose of them freely.

The Beneficent Blastophaga.

Joy to the fig grower: the blastophaga has come! Years of inquiry follow years of effort and in due course of time the end is realized. Thus it is with all progressive affairs, horticultural and otherwise.

Perhaps readers of the PACIFIC RURAL PRESS who are not fig growers may have forgotten the issue which has risen to print in our columns from time to time for the last twenty years, so we offer a word of explanation. California has never been able to produce dried figs equal to the fig of commerce or the Smyrna fig. This was thought to be due to lack of the Smyrna variety. After painstaking effort this variety was introduced. Trees grew readily from the cuttings: fruit appeared upon them and dropped before maturity. Doubt then arose as to whether importers had not been deceived by the wily Turks and other efforts were made which resulted in other importations. These also cast to the ground their untimely figs. Discussion turned then upon the fact of caprification—the necessity of having the fruit of the Capri or wild fig adjacent to the fruit of the Smyrna fig so that insects from the capri might visit the fruit of the improved variety and pollinate its inclosed flowers, which, appearing upon the inner wall of an almost closed cavity, could not be reached by ordinary visiting insects. The wild trees had already been introduced and were freely growing near the others, but this fact availed nothing—the figs fell just the same from the Smyrna trees. Mr. George C. Roeding of Fresno essayed to demonstrate the fact that the lack of the pollination was the secret of failure and he succeeded in introducing the Capri pollen into the eye of the Smyrna fig and secured thereby the retention of such pollinated figs upon the trees, and when ripened and dried these had the Smyrna character. The demonstration was complete but what grower could afford to inoculate all the figs on his trees for the sake of a crop!

Whatever skeptics held before as to the act of caprification as a traditionary delusion or superstition, they ceased discussion. All seemed to be satisfied that California could not grow Smyrna figs without the agency found to be essential to success in Smyrna. This agency, as already suggested, is a minute wasp called the blastophaga—an insect so minute that it can make its way through the mesh of ordinary cheesecloth—so minute that a magnifying glass is necessary to give one any clear idea of its outline. Evidently it is a very small bird that fig growers have to bag; still, the effort was not refused. For years constant effort has been made by various parties to secure the introduction of this insect. Urgent appeals were made to the United States Department of Agriculture, after private undertakings failed, to secure the insect alive or otherwise in form for permanent residence. It is gratifying to announce that at the present time the fact has been accomplished. Not only has the living insect appeared in large numbers at Fresno, but the present specimens occurring in large numbers there are natives of the State, born of parents which arrived in California in April last.

In view of the success of the undertaking, at least to a degree beyond any former attainment, the steps of the achievement are particularly interesting. Something more than a year ago the United States Department of Agriculture, convinced that the fruiting of the Smyrna fig in California and the consequent production in that State of a fig which should equal the standard fig of commerce was dependent upon the introduction from south Europe and the establishment in California of a little insect which in Mediterranean countries fertilizes the Smyrna fig, began a series of experimental introductions of the insect. Dr. Howard, the entomologist of the Department of Agriculture, went to California in the spring of 1898 to look over the ground in California to ascertain the conditions, and to settle on the best points at which to attempt the introduction of the European insect. Another agent of the Department, Mr. Walter T. Swingle, was sent to south Europe partly for the purpose of sending to this country cuttings of all varieties of wild figs which could be found, and to send over living specimens of the blastophaga.

It was thought worth while to send to this country the fruit of the wild fig, or the Capri fig, containing the living insects, and this was done on a number of occasions by Mr. Swingle. A Capri fig was enclosed at Mr. Roeding's place at Fresno, and, on the arrival of the European figs, the insects, which were found to be in good condition, were liberated within the enclosure. Mr. Swingle adopted a new method of packing for transportation, each fig being carefully wrapped in tin foil and sealed with wax. The first specimens were received at Fresno in the early part of May, 1898, but, so far as could be observed, none of them laid eggs either from this or subsequent sendings. All through the intervening year wild fig cuttings have been received and started under varying conditions. It was realized that the attempts thus far described were very problematical in their results, and that the chances of success were small. It was planned, therefore, to transplant Capri fig trees into large tubs and carry them across the Atlantic in growing condition with their fruit and contained insects; and one rather large tree was sent over last spring by Mr. Swingle.

It has been recently announced in dispatches from Washington that some of the 1898 importation did succeed in establishing themselves in the Capri figs at Fresno, but this does not agree with the observation of Mr. Roeding. He telegraphed to the University on June 27 that the blastophaga was breeding and asked that an entomologist be sent to observe them. A day or two later Prof. Woodworth went to Fresno to observe the phenomenon. He verifies the observation of Mr. Roeding and reports the insects present in large numbers, not only under the cheese cloth tent which covers the Capri tree, but on other Capri trees nearly a quarter of a mile distant. Prof. Woodworth and Mr. Roeding are convinced that the present brood hatched not from any importation of last year, but from the introduction which reached Fresno April 6 to 12 of the present year. However that may be, they are now on the ground and apparently in good shape for business. There is also a crop of small figs on Mr. Roeding's Smyrna trees adjacent to the Capri trees, and if they should depart this year from their custom and bear a crop of perfect figs the demonstration from a horticultural point of view would be complete.

There still remains a question as to how the insect will winter. The Capri fig does not hold its fruit all winter at some points. On Mr. Roeding's valley land it is cleaned of its late fruit by frost; in the foothills the fruit hangs on the trees all winter. Blastophagas are being taken to the hill place so that they may find winter quarters there if they fail to find them in the valley below. But this is a question for the future.

We seem just upon the point of another very significant demonstration of the practical value of the liberal provision made for the work of the U. S. Department of Agriculture as well as the realization of a change in the aspect of the fig industry of California. Our readers will be fully informed of any new phases of the problem as they may arise.

WE are to have something done in the California wool interest, even if it be on the dealers' side of it. The California Wool Association recently held a meeting for the purpose of considering the question of making an exhibit at the National Export Exposition, to be held at Philadelphia during the coming fall. Charles H. Abbott, president of the association, appointed a committee to investigate the matter and see what could be done toward having an exhibit of wool at the exposition, composed of E. H. Tyron, James E. Bell and F. P. McLennan. The committee was instructed to report back to the asso-

QUERIES AND REPLIES.

Almond and Myrobolan Roots.

To the Editor:—Will you kindly tell me the various merits and demerits of the almond and the myrobolan as root stocks for the prune? Some say one is the better stock, some say the other. I have been told that if ground is too low and wet for the almond root, prunes should not be planted in it. Will the almond root thrive on soil inclined to "pack," but gently sloping from a hill, somewhat cold, but with the water quite distant from the surface in the summer? It is said that the myrobolan is inclined to dwarf the tree and give small prunes. Is this true? I have noticed prune trunks much larger in diameter than their myrobolan root stocks. They are now young and thrifty, but will this thriftiness continue in the future? Will this cramped crown support the larger trunk when the tree becomes large and old? Will you kindly answer with regard to both irrigated and unirrigated trees? I would like orchardists to tell their experiences with these root stocks.—Reader, Irvington.

Yes, we would like all readers to write us of their experiences with different roots for different fruits on different soils. There are so many variable factors in the problem that only data from very wide observation can determine their influence. The almond and the myrobolan are both hardy roots: the almond will grow on any soil not subject to water soaking, and will endure very light and dry situations; the myrobolan will grow on any soil and will endure wet places which would destroy the almond. We have them, then, ranging side by side on ordinary soils, but each with ability to stretch beyond on its own side—the almond toward drouth, the myrobolan toward submergence. As they are both hardy roots, one need not be surprised to hear of the myrobolan also doing well sometimes on hard upland and the almond enduring more water than would be chosen for it. It is seldom we find hardiness extending in one direction. Resistance to one extreme sometimes means also resistance to an opposite extreme, but as a rule choose the almond for very light and dry soils and the myrobolan for heavy and wet soils. In the special case of which you speak, heavy soil at the base of a hill, we should choose myrobolan; it can endure the winter soaking in such a place better than the almond. It is water during the dormant season which especially injures the almond. It can take a great deal of water during the growing season, and it can also do very well without it. Hence its hardiness.

The myrobolan is not a free-growing stock like the almond and the peach. It will dwarf everything you put on it as compared with those pushing roots. What you say about the top overgrowing the myrobolan root is frequently observed and no tree grower likes the looks of it. At the same time we cannot remember ever hearing of a tree breaking at that point. Though small the plum wood is very tough and the joint is well knit. As for size of fruit, we know of no trouble in getting good-sized fruit on a myrobolan root if the trees are properly pruned and not allowed to carry to much bearing wood, but in a soil which suits the almond root we should expect to get more large fruit to a tree by its use than from the myrobolan root.

As for irrigation there is no difference whether you get the water from the ditch or from the clouds providing you get just the right amount of it. If you are in danger of drowning your trees by excessive irrigation the myrobolan will keep its head above water longer than the almond.

Thrips on Beans.

To the Editor:—My bean vines are troubled with some disease. I send a few leaves to see if you can tell me what to do.—J. Gnecco, Mokelumne Hill.

Your beans are infested with thrips, a minute insect which can scarcely be seen without a glass. Thrips infest a great variety of vegetables and flowering plants and soon bring them into distress. With a magnifying glass you can see them to be long, slender insects of yellowish color, but almost transparent. They move quickly by running along the surface, but as they get older they become darker colored and take on wings. It is the wingless form which is usually seen and which does most injury. They multiply in heat and drouth, and can be largely reduced by free use of water on the leaves of plants they infest. Drench the plant well, using a spray with as much force as can be employed without injuring the plant—striking the under surfaces of the leaves as much as possible. If water does not seem to be energetic enough, use kerosene emulsion, soap suds or any of the mild summer washes.

Nurse Roots for Cuttings.

To the Editor:—Will you please give us more light upon a statement which is being printed in the country papers to the effect that Secretary Lelong announces the important discovery that you can take the limb of any kind of tree, put a foster-mother root to it and in a very short time the limb will take root and become a tree. Limbs 2 feet long were taken from Washington Navel orange trees, united with foster-mother roots and placed in a sandy soil, and in two months they had attained a growth equal to two or three years by the ordinary methods. The same results were obtained with the olive, apple, peach and pear together with other varieties of trees. As a result of this discovery, Secretary Lelong says that our horticulturists will not have to wait five years for orange trees to bear, as they can be advanced to the bearing stage one year from the first operation. With olives the bearing time can be reduced from four years to one year, and the same is true of apples, peaches and pears. We look to the Pacific Rural Press to keep us posted on such matters. What is meant by foster mother roots? When are the cuttings made—from this or last year's wood? In short, give us all you know about it.—J. F. Flory, Lemoore.

We have not alluded to this matter before because the announcement in the county papers, which is condensed in Mr. Flory's letter, was accompanied by so many sensational statements that it was hard to see what was really claimed by Mr. Lelong. He promises a bulletin on the subject which will place the matter in some definite form and then Rural readers can have it without its yellow hues. The term foster-mother root is equivalent to "nurse root," or a "starter." If you take a cutting of almost any kind and make a side cut upwards a little above its base, and insert in this cut a piece of the root of the same kind of a plant cut with a wedge-shape at the top so as to fit closely in the cut in the cutting, this root will quickly callus itself to the cutting, send sap into it and start its growth. If the cutting were planted without this "starter" root, all the moisture might evaporate from its tissues (which is death to a cutting) before it can establish roots of its own to supply it sap. Thus this root piece becomes a nurse to the cutting until it is able to take its own nourishment, as it soon will by means of roots emitted from its own tissue. There is no recent discovery about this. It has been known for generations and has been employed in the propagation of all sorts of plants. It is simply one of the many forms of root grafting. If it is desired that the cutting grow upon its own roots *alone*, it is taken up at the end of the first season's growth and the nurse root is cleanly cut out and the well-rooted cutting is replanted. If it does not matter whether it grows upon its own roots and the enlargement of the nurse root also (which is generally the case) it is simply allowed to go ahead as it likes. All roots on root grafts are nurse roots, more or less, because in almost any underground grafting you will have roots from the scion unless you take pains to replant with the whole of the scion or cutting above ground.

This work can be done with cuttings of greater or less maturity. If you take the last year's wood from a bearing tree you will, of course, get fruit in a year probably. If you take a cutting from a tree not yet in bearing you will have to wait longer. The speed of fruiting will be conditioned upon the age of the tree and its habit of bearing upon wood of one or two years maturity. These are very old facts, and reporters who claim any discovery for Mr. Lelong on this basis place him in a queer horticultural light, and for this reason we have preferred to wait to see what he would say for himself of his own work.

Since, however, our correspondent wishes to know at once what we think of the announcement so industriously circulated in the country papers, we can remark that the accounts seem to justify the surmise that Mr. Lelong is undertaking to demonstrate the feasibility of employing the old nurse-root method to secure in a minimum time good-sized trees by using a very large cutting at the start. That is a very interesting phase of the matter and, so far as we know, that has some element of novelty in it as applied to commercial propagation. How well it succeeds we shall know as soon as Mr. Lelong is ready to make a statement of his results.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 3, 1899.

Alexander McAdie, Forecast Official and Station Director.

High temperatures prevailed during the week in the interior, and the average for the State was slightly above normal. No rain fell, except light showers at Eureka and Red Bluff last Monday. Conditions have been very favorable for all crops, and grain harvesting is progressing rapidly. Nearly all reports received from the great grain belts show that a very large crop of wheat is being harvested, and that the quality is first-class. Barley is also yielding heavily, but in some sections it is inferior in quality. Raisin and wine grapes are making good growth, and the present outlook is for a fair crop. The first shipment of grapes from Vacaville was made last Friday. In deciduous fruits peaches lead, with a very heavy crop assured. Apples, pears and plums will be about an average crop; prunes and apricots will be light. Oranges are dropping in some orchards, but a fair crop seems probable. Olives and almonds are doing well and promise a large yield. Sugar beets and hops continue thrifty in the coast and bay section. Corn, beans, potatoes and vegetables are growing rapidly and promise good returns.

Sacramento Valley.

Fruit.—The prospect for a large crop of grapes was never better. In some localities deciduous fruits were damaged by the hailstorm in May, hut the yield will he ahove the average. Peaches, plums and pears are yielding a heavy crop, and apricots and prunes are turning out hetter than expected. Almonds and olives are hetter than for several seasons. Oranges are dropping, hut a fair crop is prohahle. There will he an immense crop of elder-berries.

Grain.—Harvest is progressing. Wheat and harley are of excellent quality, and the yield per acre is more than the average. Oats will yield a fair crop. Warm weather during the week was heneficial to all crops.

Hay.—An unusually large crop of first-class hay has heen harvested.

Coast and Bay Sections.

Fruit.—The recent hot weather has still further damaged apricots in some sections, and the yield will he light. Prunes and pears will average ahout normal. Peaches and apples promise a full crop, in some localities ahove the average.

Grain.—Wheat heading is in progress, with indications of a very heavy yield in some counties, while in others the crop will fall below average. Barley is of good quality, hut not heavy.

Hay.—The yield throughout the section is ahove the average, and quality good. Baling is in progress.

Minor Crops.—Sugar heets are doing well, and promise a good crop Corn, hops, potatoes and vegetahles are making favorable growth, and the yield will he good.

San Joaquin Valley.

The damage to some vineyards hy the heavy frosts in March is said to have heen very serious, hut it is helieved the yield of raisin and wine grapes will be fair, and in some localities a full crop seems assured. Peaches are of fine quality and a large erop; other deciduous fruits are light.

Grain—As harvest progresses it is found that in some favored sections the yield of wheat is very heavy and of fine quality. In others a fair crop is heing gathered, and in other localities, where the drought was severe, the yield is far below the average. Barley is a fair crop, but the quality is generally not up to the standard.

Hay.—The second crop of alfalfa is turning out well. Both grain and alfalfa hay have yielded a large crop of excellent quality.

Southern California.

Fruit.—Clear, warmer weather during the week has heen favorable for maturing deciduous fruits, and a fair crop is heing gathered. Apricots are heing dried; the fruit is generally of good quality. Grapes promise a good crop. Oranges are dropping to some extent, but an average yield is prohahle. Water is becoming scarce in places.

Grain and Hay.—Barley and wheat are heing harvested in the northern section. Hay baling continues.

Minor Crops.—Walnuts look well. The potato crop is hetter than expected. Corn, heans and other summer crops promise good returns.

Eureka Summary.—Weather favorable for growth of crops. Grass growing finely in valleys, but hecoming hrown on highlands. Hay harvest progressing and yielding hetter in some localities than expected.

Los Angeles Summary.—Grain harvest in progress; some threshing. Hot weather ripened fruit fast. Apricot drying in full operation; good crop of generally fine fruit. Beets affected by heat.

The following data for the week ending 5 A. M. Wednesday, July 5, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week	Maximum Temperature for the Week.....
Eureka.....	.00	.00	.00	.02	46	60
Red Bluff.....	.00	.00	.00	T	66	108
Sacramento.....	.00	.00	.00	T	52	98
San Francisco.....	.00	.00	.00	T	48	68
Fresno	.00	.00	.00	T	62	106
Independence.....	....	....	....	....	....	....
San Luis Obispo....	.00	.00	.00	T	50	90
Los Angeles.....	.00	.00	.07	T	54	88
San Diego.....	.00	.00	.00	T	58	70
Yuma	.00	.00	.00	.02	72	110

Mexican cattle are barred out of California. It is announced from San Diego that W. E. Hill, whose jurisdiction as quarantine inspector extends from the Rio Grande to the Pacific ocean, received instructions from the Agricultural Department at Washington to admit no cattle with ticks from Mexico. As there is scarcely a bovine creature anywhere in the southwest of Mexico that is not more or less afflicted with harmless ticks, the new law amounts to the prohibition of cattle from below the line. The reason advanced by Officer Hill for the new law is that ticks are believed to be a means of bring germs of fever into this country. This, however, is considered the merest nonsense by stockmen, who declare that Lower California is absolutely free from cattle disease of any kind, and has been so from time immemorial.

THE SUGAR BEET.

Beets on Alkali Soil.

By the National Irrigation Association.

Sugar beets, it was thought for a long time, could not be grown profitably on soils containing much alkali. The great interest awakened, however, in the sugar beet question and particularly in the West, where irrigation has proven such a success with this crop, has led to experiments with growing beets in soils containing more or less alkali.

California Experience.—Although the sugar beet industry is just beginning to be established in this country, and we have millions of acres of land whose adaptability to the growth of the beet is unqestioned, it is nevertheless important to ascertain the possibilites of successful sugar beet culture on alkali soils, inasmuch as the proximity of such soils to beet sugar factories may make them especially desirable as beets fields. The existence of these conditions in southern California, near the large sugar beet factory at Chino, and the fact that the beet fields there have been rapidly extended with but little regard to the presence of alkali, without seriously injuring the quality of the beet, induced the California Experiment Station to make a study of the effect of different kinds and amounts of alkali in the soil on the growth and quality of sugar beets.

The investigation was made on a 10-acre field located on the border of a tract of alkali land. The tract contained occasional small alkali spots, which, however, did not seem to interfere with its natural growth of grasses and sunflowers. This soil was first planted to various grasses and legumes, but as none of these gave promise of a crop, the greater part of the tract was again plowed and planted to sugar beets. These came up quickly, though with a somewhat thin stand, right among the alkali efflorescences, and continued to grow without let or hindrance. The alkali salts did not seem to affect the beets, although they had proved injurious to the grasses and legumes. Different portions of the tract had different amounts and qualities of alkali salts, and to deduce definite conclusions regrading the tolerance of the plants for the several mixtures of salts the tract was divided into plats 50 feet square, which were investigated separately.

It is concluded from the results obtained that without question sugar beets of a good quality can be grown on soil containing as much as 12,000 pounds of alkali salts per acre to the depth of 3 feet, provided the average percentage of common salt is not over 0.04 per cent, or 1,500 pounds per acre.

To find out whether the sugar beet can be profitably grown on alkali lands, it is recommended to those interested in such lands to ascertain the total amount of salt in the upper 3 or 4 feet of soil. This may be accomplished by taking an average sample of the soil to that depth by means of a post-hole auger, and having the amount of soluble salts contained in it determined. A considerable portion of the salts present in the first 3 or 4 feet of the soil may come to the surface under cultivation and irrigation, and may give the soil the appearance of being too heavily impregnated with alkali to grow beets; but, as these experiments indicate, the feasibility of successfully growing sugar beets depends on the total amount of alkali salts present in this upper stratum, and soil with marked alkali efflorescences at the surface may be perfectly capable of profitable sugar beet culture.

Other States.—While the arid area on which beets can be grown without irrigation is probably confined almost exclusively to the coast valleys of California, where the soil is of that texture which allows of subterranean moisture to reach the rootlets, the successful commercial production of sugar beets in Utah and New Mexico has opened up a new and extensive field for the extension of the sugar industry over large areas suited to irrigation in the western and southwestern regions of the United States. It is certain now that Colorodo, Utah, New Mexico, Idaho and Arizona will become great sugar-producing States, not excluding other areas in the arid region. California has already set the pace of progress, and the other arid States will not be slow to follow. The high cost of good irrigation renders it imperative that the areas under culture be devoted to a crop which is capable of producing a more valuable yield than is afforded by cereal culture. Of all the home markets for domestic agricultural products, there is none so insistent or so expansive as that for sugar. With an annual consumption of 2,000,000 tons, and with a certainty of rapid increase, the demand for sugar promises to be the salvation of American agriculture.

Competition With Sugar Countries.—The northern parts of our Eastern and Middle States, and the States of Oregon and Washington, have at least an equal chance for the successful production of beet sugar with the fields of France and Germany. The irrigable parts of the great Southwest, it is believed, have advantages of soil and climate which will enable them to enter into competition with the Hawaiian Islands and Cuba. To be able to control the moisture in the soil is a matter of prime importance to the beet grower. In the arid region the beet can be left to mature at the proper time by withholding the water. Subsequently there is no danger of loss due to second growth, so easily induced by late warm autumnal rains. In a dry soil the beet can endure without damage a low temperature, which would prove quite disastrous in a wet climate. More complete maturity may be thus obtained, and a more leisurely harvest. In fact, it is stated there is no staple crop which can compete with the sugar beet in demanding the favorable attention of those interested in irrigation. It is estimated that nearly 100,000,000 acres of land in the arid regions of the United States may eventually be irrigated, being nearly one-fifth the total area of the country. Of this area perhaps 10% is capable of easy and speedy irrigation.

Irrigation.—The building of some of the storage reservoirs by the Government under the river and harbor appropriation, as advocated by Senator Warren and others in Congress last winter, sites for which have already been officially surveyed and reserved, would reclaim enough land and open it to settlement to supply the entire $100,000,000 worth of sugar for which the United States now sends annually to Germany and France, thus enriching the farmers of those countries at the expense of our own.

One million acres planted to beets would yield, under intensive culture, a quantity of sugar sufficient, with the Louisiana products, for domestic consumption. With this great sugar production and the possibilities for stimulus to dairying and feeding opened up through the use of the by-products of the beet after the sugar has been extracted, there is nowhere in sight a more promising prospect for agricultural development than in the production of sugar beets on irrigated lands.

Beet Sugar Production.

IN TONS OF 2000 POUNDS.

[Prepared for the Pacific Rural Press.]

	1894.	1895.	1896.	1897.	1898.	Estimate for 1899 (including new factories).
Alvarado	2,955	2,700	4,679	5,089	3,689	.....
Chino	3,725	10,341	7,951	12,020	6,063	.....
Crockett	.....	.....	.....	.....	900	.....
Los Alamitos	.....	.....	.....	3,500	300	.....
Watsonville	11,935	10,786	19,185	14,671	7,048	.....
Total California	19,615	23,827	31,815	35,280	18,000	75,000
Colorado	.....	.....	.....	.....	.....	3,400
Illinois	.....	.....	.....	.....	.....	3,400
Michigan	.....	.....	.....	.....	2,800	36,000
Minnesota	.....	.....	.....	.....	1,230	4,000
Nebraska	2,971	4,950	8,960	7,230	5,260	10,500
New Mexico	.....	.....	1,200	590	1,120	2,200
New York	.....	.....	.....	420	1,800	3,600
Oregon	.....	.....	.....	.....	740	2,000
Utah	2,354	4,032	4,567	1,760	6,385	8,800
Virginia	25	.....	.....	.....	.....	.....
Washington	.....	.....	.....	.....	.....	2,300
Total United States.	24,965	32,809	46,542	45,280	37,335	151,200

FLORIST AND GARDENER.

Sweet Potato Growing in Merced.

"Picturesque Merced" is the title of a handsome folio published by the Merced *Sun*. There are lots of fine pictures and good local sketches. Mr. J. C. James writes about sweet potato growing in a very interesting way.

In 1879 the Farmers' canal, since passed into the hands of the Crocker-Huffman Land & Water Co., was completed and water turned upon the plains of Atwater. The first locators for irrigation purposes were the "Buhach Plantation," Z. T. Smith and J. C. Boynton. In 1880 they first experimented with sweet potatoes, meeting with very good success. Other colonists then began to settle in the neighborhood, and found sweet potato raising to be a very lucrative business. The local market became insufficient to consume the product and producers began shipping to San Francisco, and even in Stockton, where river sweets had been raised for years, Atwater sweets, on account of their superior quality, found a ready market.

Freight at this time to San Francisco was 48 cents per hundred. The demand in the city soon brought commission merchants to our doors, and the result was the sweet potato business became the leading industry of Atwater. A great many carloads are shipped every year to Oregon, Washington, and some to Utah and Montana. Samples sent to Chicago last year elicited considerable investigation on the part of merchants of that city, but expenses of transportation were too great to enable them to pay the prices obtainable in the local market (this State). Yet sweets can be raised at a profit for 50 cents per hundred, and at that figure perhaps Eastern cities may be enabled to purchase our surplus.

Crops and Prices.—Money was made here last year in sweet potato culture. I think the bulk of last year's crop was disposed of at about $1 per hundredweight. Some few sales were made at less, and a great many at much more. And to this fact is due the many embellishments that many of the cottages have been undergoing during the past winter.

Last year, according to the best information I can get, there were about 200 carloads of sweet potatoes shipped from Atwater station and the Buhach switch. The average yield per acre is about 15,000 pounds, though I have known 30,000 pounds to be raised on one acre of fertilized land. Some people appear to think that sandy land is good for sweets, but that is a mistake. There is a great deal of difference in the yield from two tracts of land that are to all appearances identical.

To secure the best results in the cultivation of sweet potatoes, judicious irrigation should be practiced so as to keep the ground moist. I do not think the ground should be disturbed after the plants are sending out long shoots and vines, but the soil should be kept moist by irrigation.

Growing.—For the benefit of those who may read this article it may not be out of place to give the method of sweet potato culture as practiced in this place. I have seen many persons who thought sweet potatoes were planted in the same manner as Irish potatoes. In the first place, a hotbed is made by digging a trench about 4 feet wide and 2 or 3 feet deep. Fill it with good, fresh stable manure to within 1 foot of the top, then put 4 inches of soil and lay whole potatoes (cut ones are liable to rot) close together; cover with about 3 inches of soil. If the bed gets too hot, allow some of the heat to escape by making small holes down into the moisture, and leave them open. It is not a good plan to flood the bed, but keep the soil moist by sprinkling. When the plants are 4 or 5 inches high pull off the biggest ones and set out, using water in the holes to set the plants in. Ridges should be thrown up about 1 foot high to grow good, long potatoes and facilitate irrigation. The hotbed is used for the purpose of having plants to set out as early as possible, because potatoes require quite a long season to mature. They usually begin planting about April 25. Of course, we must wait until the danger of frost is passed.

THE STOCK YARD.

Weeds, Not Breeds.

To the Editor:—In what I wrote about the scarcity of good cattle, you make me say that "like produces like" in breeds as well as better stuff, when it should have been weeds, etc. Of course, weeds produce weeds only, and it is in the same sense that I used the word in regard to cattle, meaning weedy—a word frequently used by breeders when referring to any undesirable class of livestock to breed from, generally leggy, light-bodied, narrow-chested, and, on the whole, rather too effeminate looking, wanting in substance and those general characteristics which are a sure sign of a growthy and strong-constitutioned animal. Such are some of the weeds in the animal kingdom which must be weeded out without mercy, and, like the weeds we have to contend with in our growing crops, they must be got rid of when young—the younger they are the less chance there is of their doing harm—for, like the weeds, the longer they are allowed to remain, the more food will they consume that should go to the support of good stock, such as will return a profit for the food consumed, a thing that weedy stock are not capable of doing under the most favorable conditions practiced by the general farmer.

Weedy Pedigrees.—There are such things as pedigreed weeds in cattle, and lots of them which may throw an occasional good animal, but they will be very rare, and rare just in proportion to the good or bad qualities of the animals which constitute the last three or four generations in the pedigree, and we might even go still further back, say, another three or four generations back of the more immediate ancestors, such as grandam and grandsire. It is quite necessary to do this in choosing a bull to use in a herd of pure-bred cattle, and no careful breeder would ever think of using one that he did not know to be descended from several generations of good animals. Prize animals are the surest class of cattle to breed show cattle from, and that is because in feeding and training for exhibition the points and characteristics most desirable in an animal are fully developed under the management of a skilful feeder, so that in the course of a few generations the desired type becomes so fixed in certain strains, or families, that it is reproduced in each succeeding generation.

Feeding.—I may say, almost with the same degree of certainty, that poor feeding makes an inferior class of cattle, though the poor feeding will do its work in less time. Most people believe in good feeding, and few will buy, say, a bull, who is in poor condition and pay anything like a paying price for him; they are quite willing to pay enough more for the well-fed ones to pay the difference in cost of feeding, besides which it is a pleasure to both buyer and

seller to be handling stock that is likely to make its mark wherever it goes.

Importance of the Dam.—Now, as regards bull buyers, I have often wondered that so many should buy without even asking to see the dam of the one they are buying; yet it is a fact that many a man has come and bought young bulls from me and gone away without seeing the dam. The sire they would see, because he would generally be close at hand. A man who had once been looking at a rather noted show bull at its home, asked to see the cow it was out of. When he had seen her, he said: "I think nothing of your bull now; he has got no mother." And so it is, there are sometimes good-looking bulls from inferior cows, as I have already said, but such bulls are not safe to use. An animal that has not a good sire and dam is not, strictly speaking, well bred; therefore, I advise all who intend buying bulls for the improvement of their stock, to either see for themselves or find out from some reliable source all they can about the ancestors of their intended purchase, if it is only to make sure that they are not weeds.

ROBT. ASHBURNER.

Lakeville, Sonoma Co., Cal.

SHEEP AND WOOL.

Sheep Care in the Central West.

In a quarterly report prepared by Secretary F. D. Coburn of the Kansas Department of Agriculture, devoted to "The Modern Sheep," there is contained an article on "The Problems of the Sheep Industry," especially as pertaining to Kansas and the central West, by Mr. E. D. King, an extensive and successful breeder and feeder, particularly of the fine wools. He tells somewhat of his forty years experience and observations:

The Start With Sheep.—Only a small capital is required by any farmer for feeding a few sheep. Some poles covered with hay or straw for shed, a few racks, or, if these cannot be had, some fence panels around a haystack to give coarse feed behind, a few troughs for shelled corn when muddy; the rest of the time feed shock corn on the dry ground, for the sheep does not need its grain either husked, shelled or ground. If a grain crop should fail, there is usually coarse feed in plenty on which sheep can be carried through until another year, and give a crop of wool which will more than pay their keep.

Sheep are emphatically the stock for the poor man who must start with few conveniences, and if he will stay by them they will build him a comfortable house and ample barns to shelter all the feed and stock the best farm in Kansas can produce. Where it can be done, it is an advantage to bring Western sheep in early and give them a few months' pasture to domesticate them and fill them out. In some cases I have carried those that did not feed out well over to another year, and the improvement was most marked. They rounded out and were about as good as first-class natives. As the pasture fails in the fall, gradually bring them onto grain; then turn them into the corn fields, where they will clean up the weeds and grass much better than the hired man will, and gather their own corn without any waste, if the ground is dry. They can be put on the market in November or about December 1, before many grain-fed sheep come in. The price then is usually good. Another lot can then be put in the yards, and, if light-fleeced, should be fed for February; if heavy-wooled, they should be shorn in April, and, after removing the fleece, they will put on flesh very fast, and may be finished for May, coming in between grain-fed and grass sheep, and usually finding a good market. As to the kind of Western sheep to fatten, it does not make much difference. Those that have had a Down cross sell well if well finished and healthy; but, true to the inbred characteristics of their sires, they fatten best on grass and silage and turnips, and do not relish all dry feed. If mutton lambs are raised on the farm, the most profitable way to handle them is to have them dropped early; feed in a creep, wean early, feed grain on grass, and put them on market while the juicy grass is still in their tissues.

Merinos.—For finishing entirely on dry feed, the New Mexican sheep are the best we can get from the West. They kill out well, dress a good per cent, and the buyers like them at an extra price. Descendants of the hardy Merino left there by the early Spanish explorers, they have always been accustomed to dry feed and hardship, and respond quickly to good feed and care. They do not make as heavy weights, but the market is usually as good for the "handy sheep" of 80 to 100 pounds, if fat and smooth, as it is for heavier ones, and often it is better. The day of bulk is past; the era of quality and finish is coming in.

Feeding.—Sheep should be brought onto feed gradually for ten days or two weeks, until all get to eating; then feed a bushel daily per hundred head for thirty days; for the next thirty days, two bushels daily per hundred head; and for thirty to sixty days more, three bushels daily per hundred, given in two or three feeds, observing the most careful regularity in the time and manner of feeding. The sheep is a clean animal, and all troughs should be swept clean for each feed. Pure water in clean troughs should always be by them, and barrel salt. Good natives or acclimated sheep do not need a longer feeding period than from ninety to one hundred days, especially on corn. Sheep direct from the range should be roughed sixty to ninety days on a light grain ration and plenty of good forage. They will make gain for some time on forage alone.

When bran and oats are cheap, a mixture of half of either one and half of corn is good feed to start them. As soon as they are all eating corn there is no better or cheaper food than shock corn, varied once or twice a week with a feed of sheaf oats. When on full feed of shock corn the fodder will make the roughness they need, but they will do better with one feed a day of clover or alfalfa. Prairie hay or any kind of straw or flax straw will do for roughness. They do better to change the forage often. They do best on a mixed grain ration, but with cheap corn and high-priced nitrogenous foods I would only feed them for an occasional change or not at all, and supply the nitrogen with clover and alfalfa. Clover and corn go admirably together, and the best rotation for our farms is corn followed by oats and clover. Cut a crop or two of hay, pasture while the clover lasts with sheep, then corn again, and the land will always be productive. By raising clover or alfalfa to balance the corn, we don't need much purchased feed. I have never used shredded corn fodder, but it seems to me wasteful to lose one-half of that valuable plant, as we do in feeding it whole. If I knew it would nearly all be consumed by sheep when shredded, I would certainly put in a shredder.

THE DAIRY.

A Distinguished California Jersey.

There appears herewith a portrait of California's most distinguished Jersey bull, El Toro of Yerba Buena. Not only that, but it might perhaps justly be claimed that El Toro is the best Jersey in America on the basis of his form and breeding, for, according to Major H. E. Alvord, Chief of the Dairy Division of the Bureau of Animal Industry at Washington, who is a well known Jersey expert, El Toro outscales by three points any bull in America—making 67 out of a possible 71, with his closest competitor at 63. El Toro is so good that he can no longer enter the show ring, except for sweepstakes, at the California State Fair. He won all class prizes up to three years old, and from then on was barred. Since that time he has been shown in the sweepstakes and has always taken first prize.

El Toro is ten years old. He was bred at Yerba Buena ranch, in Santa Clara county. He is strong



EL TORO OF YERBA BUENA, OWNED BY HENRY PIERCE, OF SAN FRANCISCO, CAL.

in the blood of Eurotas and old Jersey Belle of Scituate, whose blood, through Pedro and Wardelia 2nd, at the late sale of T. S. Cooper, Coopersville, Pa., outsold any other. The bull Pedro's Royal Marjoram sold for $1100, and Peter Cooper's Pedro, a two-year-old bull, by the Eurotas bull Pedro and out of the Scituate cow Wardelia 2nd, was bid off by Major Alvord for Henry Pierce at $800. Thus it appears not only that El Toro is rich in the old blue blood which is still reigning in Jersey favor, but more of the same blood through other channels is being secured for California, which will enable Mr. Pierce to proceed with more distant streams of the same blood which has won for him such a victory in El Toro.

This dispersion sale of the famous Cooper herd is significant as showing the value and popularity which remain with the Jerseys. There were from 500 to 600 present from all parts of the country. The list of sales would hardly be of interest to the general reader, but he can easily see the points in the summary and he can note the leadership of the families represented in the Yerba Buena herd. The *Jersey Bulletin* says: "We figure the average of 93 head sold ("every hoof") at $217. Mr. Cooper has calculated and sent us the following:

"Eleven daughters of Pedro and his two sons averaged $425.

"Ten cows and heifers sired by Pedro Royal Marjoram averaged $343, six of the ten bulls being under two years old.

"Five heifer calves and one bull calf sired by Pedro Royal Marjoram averaged $217, nearly all of them under six months old.

"The five bull calves sired by General Marigold averaged $200.

"The five heifer calves sired by General Marigold averaged $183.

"Ten best females averaged $473.

"All others by Pedro, or deep in his blood, thirty females, averaged $321—all bred at Linden Grove."

El Toro has made a clear mark in elevating the character of California Jerseys. His heifers have milked as high as thirty-six pounds at two years old and up to fifty as matured cows.

The Use of Cyclone Churns.

During the past two years several forms of churns have been introduced in the United States that are advertised to bring butter "in a minute and a half," and remarkable results are promised the farmer who uses one of them. These churns are of the shape of an ice cream freezer pail, and contain a set of arms or dashers near the bottom that are revolved at great speed by a geared arrangement at the top of churn, operated by a crank handle.

In April and May tests were made of one of these churns at the Indiana Experiment Station. The churn was small of capacity, so but eight pounds or one gallon of cream was used in each trial. The trials were made under as favorable conditions as possible to produce good butter. The cream was placed in the churn at a low temperature, ranging in the different trials from 53° to 56°. At the former temperature the butter came in seven minutes; at the latter in fifteen minutes. At 53° a yield of three pounds and one ounce of salted worked butter was secured; at 56° two pounds and twelve ounces was obtained. The amount of butter-fat left in the buttermilk showed that the butter had been quite satisfactorily separated from the cream.

The removal of the butter from this churn, however, was the objectionable feature. If the butter warmed up to 62°, a very common churning temperature on our farms, it could not be nicely removed from the churn. The paddles beat it considerably, and after giving such careful washings of the butter as seemed desirable, the contents of the churn in each case smeared in an objectionable manner. In winter, in a cold room, the work of the paddles would still be undesirable.

This type of churn, for the reason given, is not to be recommended over the standard barrel or box churns, free of all inside devices. The revolution of a simple barrel or box churn, containing no paddles, in a cool room with cream at 54° to 56° temperature, should give the most satisfactory results to the dairy farmer.

ENTOMOLOGICAL.

The Hessian Fly at Salinas.

Duncan McKinnon, who discovered the Hessian fly in his grain field near Salinas about two weeks ago, has, according to the *Index*, arrived at the conclusion, after careful investigation, that the pest has existed there for years, although not identified until the present season. He recalls that in former years of light rainfall a portion of his grain (wheat and barley), after attaining a certain height, seemed to wither up and go back, as it were, into the ground. He attributed it to a lack of moisture, believing that the soil under such conditions would produce just so much of a growth and no more. Observing the same conditions this year in his own and neighbors' fields, he examined the soil and found it moist enough to sustain vegetation; hence he sought for some other cause for the blight and decay of the half-grown grain. Pursuing his investigations, he at length satisfied himself that it was not lack of moisture but the dreaded Hessian fly that

killed the grain. One year a fire broke out and burned a strip across one of his barley fields. The next year a portion of the grain on each side of the burned strip sickened and died after reaching a height of 8 or 10 inches, while that which grew on the place burned over the previous year remained healthy and produced a splendid crop. Mr. McKinnon thinks that the fire killed the Hessian fly. In this connection it is worthy of note that in the Atlantic States burning the stubble in the fall was the most effective means of checking the ravages of the Hessian fly.

FRUIT MARKETING.

Santa Rosa Growers Fix Their Own Prices.

At a meeting held in Santa Rosa July 1st, a number of growers established a standard and propose to stand under it. As reported by the *Press-Democrat*, Jonathan Roberts was elected chairman of the meeting by acclamation. He made an opening statement that the meeting was held to discuss ways and means to meet the cannery combine and to co-operate for the purpose of perfecting plans for the handling and disposing of fruit to the best advantage. F. W. Cooke was elected secretary of the meeting.

Discussion.—All the speakers urged the necessity of unity of action in the management of the disposition of the peach crop. There was a general concensus of opinion that if the growers could not get the price they asked, the one alternative was for them to dry the product.

The request that growers give the convention an idea of the prices they had been offered for peaches, drew from Mr. Metzger the statement that he had been offered $18 per ton for Crawfords, $20 for Muirs and $25 for Clings.

The Rev. W. Floyd said that he had been offered $20 for freestones, $25 for clings and $30 for pears by the Cutting Packing Co. at Santa Rosa. Fontana & Co., he said, had offered the same prices for peaches, but $35 for pears.

F. Butler stated that all the peaches this year are from California. He went on to say that the canners had raised their own prices 55% over last year, but that they were offering the producer 33% less than last year.

"It's all right," said Mr. Butler, "for the canner to settle his price, but let the producer dictate what his prices shall be. The war has had a great influence on the price of fruit. We can dry our fruits and reach the Manila markets in spite of the canneries. I would suggest that 7½ cents is a fair price for the dried product. For peaches, from 7 cents to 9 cents a pound should be received. It has been the experience in the past that if the canneries were overrun with fruit much of the fruit was rejected, but if we can show we are able to dry and dispose of our own product they will no longer do so."

Action.—A committee of seven was appointed to draft resolutions of the sense of the meeting. They were W. V. Griffith, chairman, George Slocum, F. Butler, D. P. Cullom, J. E. Metzger, A. R. Galloway, H. Gregory. They submitted the following resolution:

WHEREAS, The canning season is near at hand, buyers having already entered the field; and

WHEREAS, The supply of peaches is far short of the average yield of the country, with the supply of old fruit well exhausted, with new markets developed; and

WHEREAS, The packers have combined and naturally advanced the prices of canned goods, therefore be it

Resolved, That we producers fix, as a minimum price of our freestone peaches of canning sizes, $25 and clingstone peaches $30; and the committee further recommends that committees be appointed to circulate forms of agreement among fruit growers to secure unity of action among them and urge action among producers of other fruit districts of the State; and we further recommend that an executive committee of seven be appointed to look after the interests of the growers of this county.

The resolution was adopted by unanimous vote.

The Contract.—The discussion was continued while the committee was preparing the resolution.

Mr. Slocum suggested that owing to the short prune crop this season there were plenty of drying trays which could be obtained cheaply, and that peaches could be dried and $30 a ton received for them.

A resolution was offered that a form of agreement should be drafted separately. This was done and the following was submitted:

We, the undersigned fruit growers of Sonoma county, hereby pledge ourselves each to the other not to dispose of our freestone peaches, canning sizes, at a price less than $25 per ton, and for our clingstone peaches not to accept a less price than $30 per ton for the current year. This agreement not to be binding unless signed by 50% of the peach growers of Sonoma county.

Promotion.—Another committee was appointed to circulate the agreement among the fruit growers of the State for their signatures, each committeeman to secure a number of deputies to facilitate the work. The committee was E. A. Norton, Forestville; Martin Litchfield, Sebastopol; W. A. Griffith, Geyserville; A. E. Burnham, Dry Creek; Johnathan Roberts, Santa Rosa; George Slocum, Healdsburg; W. W. Bell, Healdsburg; Mr. Reynolds, Dry Creek; A. H. Stanger, Healdsburg; G. Brigham, Healdsburg; Chester Sylvester, Geyserville; M. A. Goodman, Alexander Valley; W. C. Price, Vine Hill; John Elliot, Cloverdale.

An executive committee was appointed as follows: M. McClendon, F. W. Cooke, B. P. Cullom, J. E. Metzger, Simon Graham.

The following prominent fruit growers signed the agreement: S. B. Malcom, C. W. Sylvester, G. S. Hamilton, F. M. Lamance, G. F. Miller, A. E. Burnham, A. R. Galloway, D. G. Jewett, F. Butler, G. H. Brigham, D. P. Cullom, M. B. Mac; A. H. Stanger, J. Roberts, J. E. Metzger, S. G. Sparks, H. Gregory, George Slocum, W. V. Griffith, Wm. Bell, C. P. Moore, A. E. Norton, F. Goodman, A. Goodman.

Shipping Fruit by Express.

According to the *Republican*, H. V. Armitage, the local agent for Wells, Fargo & Co., is trying an experiment in the way of green fruit shipments. Mr. Armitage's idea was to ship green fruits in small consignments to all parts of the United States by express, doing away with refrigeration altogether. He had printed a circular which he sent to Wells, Fargo agents in all parts of the country, explaining the working of the plan. To the same agents he sent small consignments of green fruit, which he asked them to dispose of to the best advantage. As soon as the fruit reached the various points to which it had been sent Mr. Armitage began to receive telegrams asking him to duplicate the first consignments and to keep sending as much fruit as he could get.

"It is almost impossible," said Mr. Armitage in conversation with a *Republican* reporter, "to realize what a demand there is for a few boxes of Fresno fruit in the Eastern towns. As soon as a consignment of the fruit reaches its destination and the fact becomes known there are at least half a dozen local dealers trying to outbid each other in getting hold of it. After allowing for the cost of transportation there is still a large margin of profit left to the consignor. Our first shipments were of apricots. We told our agents to sell them for at least 60 cents a box, and of course as much more as they could get. Of all the fruit sent out not a single box was sold below the price fixed by us and in many cases that figure was almost doubled. Every box was sold promptly, too."

For the last few days Mr. Armitage has found it impossible to fill the orders which he has received. Among these is an order for ten crates of apricots from Dallas, Texas, as well as several orders for Simoni prunes.

Among the points to which fruit has already been shipped and from which satisfactory returns have been received are the following: Wichita, Emporia, Hutchinson, and Arkansas City, Kansas; Trinidad, La Junta, Aspen, Cripple Creek, Colorado Springs and Victor, Colorado; Salt Lake City and Corinne, Utah; Las Vegas, Albuquerque and Santa Fe, New Mexico, and various cities in Arizona and Texas. A consignment of 15,000 pounds of Simoni prunes sent to Chicago sold for $4 a box, with an order for more.

The fruits shipped so far have been for the most part apricots, peaches, figs and plums. Some of these have been sent as far as New Orleans and Shrievesport, and were found to be in good condition upon their arrival.

Next year it is the intention to send consignments of fruit to Chicago and Minneapolis in competition with the refrigerator companies. Of course, it has been necessary to reduce the regular express rates in order to provide for the fruit shipments. A special rate is made for the purpose.

Interesting Figures on Orange Sales.

The Redlands Orange Growers' Association has just issued to the members its eighth annual statement, showing in detail the business of the concern during the season just closed. The *Facts* gives an outline of the statement:

The total amount of fruit received at the packing house for shipment was 6,528,900 pounds, from which were packed 83,078 boxes and of this 243 cars were shipped.

Of the total quantity of oranges received, 5,113,276 pounds, or over 78%, were Navels. Of these, 30,466 boxes, or nearly half, packed "Fancy" in regular sizes and 14,087 boxes packed off sizes of "Fancy." The "Fancy" averaged 58.8%, the "Choice" 26.3% and the culls 14.9%.

The Mediterranean Sweets received aggregated 451,002 pounds, from which 2933 boxes of "Fancy" and 2099 boxes of "Choice" fruit was packed.

Of Seedlings 498,415 pounds were received, 64% of which packed "Fancy."

There were 96,948 pounds of Ruby Bloods received, nearly half of which packed "Fancy;" of Malta Bloods 34,123 pounds, two-thirds of which packed "Choice," none fancy; of St. Michaels there were 75,612 pounds, one-third of which packed "Fancy;" of Crafton Lates there were 39,644 pounds, nearly all packing "Choice;" of Valencia Lates there were 89,497 pounds, 61% of which were "Fancy" and about 28% "Choice;" of grape fruit, 25,379 pounds were received, about 17% of which were "Fancy."

The unusually large percentage of small fruit made the season's pack show a large quantity of off sizes, which materially affected the receipts. Notwithstanding this and the fact that the total shipments amounted to forty-eight cars less than last season, the gross receipts were $4729.41 greater than last season. Because of the small sizes and the increased cost of boxes, the cost of handling was greater than the preceding year, the average being 38 cents a box. This is 3 cents a box greater than the cost last year. One loss by failure was also a factor in increasing the cost. The average net price received for Navels for all the fruit delivered at the packing house, including culls, was $2.10¾ per 100 pounds.

The net receipts for "Fancy" Navels, regular sizes, was $2.85 per 100 pounds; off sizes, $2.00 per 100 pounds; "Choice," regular sizes, $2.20 per 100 pounds; off sizes, $1.59 per 100 pounds.

The prices for the other varieties were as follows:

	Net price per 100 pounds.	
Variety.	*Fancy.*	*Choice.*
Mediterraneans	$2 22	$1 54
Seedlings	1 15	....
Ruby Bloods	2 27	1 62
Malta Bloods	....	1 68
St. Michaels	2 36	1 93
Crafton Lates	....	2 01
Valencia Lates	3 60	2 94
Grape Fruit	1 58	....

The demand for the established brands of the Association has been very satisfactory to the Association throughout the season, and Mr. Ruggles states that the shipments have been kept up to the standard in packing and careful handling.

Fruit Prices at Various Points.

SAN JOSE, July 1.—It was reported at the Grange meeting that the work of harvesting the apricot crop had commenced and next week would see those having apricot orchards very busy. There is still a demand for apricots at $47.50 per ton.

CAMPBELL, July 1.—A number of our orchardists have sold their combined crops—200 tons—for $47.50 to a San Francisco cannery company, taking the whole crop as they came. It is estimated that fully 2000 tons of 'cots will be shipped from here, at prices ranging from $35 to $50—most all passing the $40 mark, and not a little as high as $50. The crop around here will turn out better than thought for earlier in the season.—Visitor.

SAN JOSE, July 2.—The Pacific Packing Company, through their agents, Burkholder & Booksin, bought about 200 tons of apricots in this vicinity during the week. The fruit will be shipped from Campbell depot to their canneries in San Francisco. The price paid was $47.50 per ton, weight to be accepted here and cash on delivery at this depot. Some fruit buyers have been around here the past few days offering $50 per ton for apricots, whole crop, all have been sold except a few small lots.—Mercury.

HANFORD, July 30. — The apricot crop is nearly all harvested and a half or more of it is in the packing houses. Although the crop of this fruit in this country is comparatively small, the quality is fine and the prices for it very satisfactory to growers. The prices for dried 'cots range from 8 to 8¾ cents, according to quality, and we hear of one lot selling for 9 cents. Those who had fair-sized crops of apricots on their orchards this year realized large returns.—Journal.

SANTA ROSA, July 1.—Yesterday it was learned that T. S. Merchant of Healdsburg had closed a contract with N. Bacigulupi for 180 tons of fruit. The fruit and prices paid were as follows: Crawford peaches, $20 per ton; Lemon clings, $25; Orange clings, $25; Salway, $20; Egg plums; Damsons, $20. Mr. Merchant also contracted for a lot of blackberries at $45 per ton.—Press-Democrat.

YUBA CITY, June 30.—F. Hauss and H. P. Stabler have sold their entire crop of shipping peaches to a fruit buyer through the agency of the Skinner Schnabel Co. The amount of fruit involved in this transaction will be sufficient to load thirty-five cars and will exceed 400 tons. Mr. Hauss will furnish twenty carloads and Mr. Stabler fifteen. The terms of the sales were very satisfactory to the growers, being $30 per ton net cash on delivery at the depot.—Farmer.

SUISUN, July 4.—The yield of Bartlett pears in Suisun valley this year is the largest in many years, and growers are reaping a harvest in consequence of the prevailing prices. R. D. Robbins, the largest owner of orchard land in Solano county, has entered into contract to deliver to the Earl Fruit Company 40,000 boxes of Bartlett pears, the price being withheld. Although the exact figure was not given, it has been authentically intimated that it is $1 a box or within a very few cents of this amount. In fulfilling this contract, Mr. Robbins will not have to make up the quantity from orchards not his own. Nearly all the pears in the valley owned by other growers have been sold to the Alden Anderson Fruit Co. and the Earl Fruit Co. at prices ranging from 75 cents to 90 cents per box.

The Canners' Combine.

The canners' combine is a reality so far as ink and paper can make it, for it has duly incorporated and will be known as the California Fruit Canners' Association. It has a capital stock of $3,500,000, representing 35,000 shares, valued at $100 each. By the terms of the incorporation all the canneries in the combine have deeded over to the trustees their property.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

BEET CROP.—Pleasanton *Times*, June 29: The beet crop could not look hetter and there is a much larger acreage than most people helieve. The extremes of early and late ripening heets will likely he reached this season.

BALING RECORD.—Livermore *Herald*, July 1: On Monday J. M. Dolan's crew, consisting of seven men, baled 294 hales of hay, weighing forty-two tons, on the Dunlea ranch. Mr. Dolan expects to place the mark at fifty tons hefore the season is ended.

HEAVY HAY YIELD.—*Times*, June 29: No one who has not been over the ground can have a correct idea of the amount of hay and grain in this valley and the Contra Costa foothills. The trouble with the hay crop will he to properly handle and store it. Everything in the form of a hay press is being brought out and fitted up, but it is not prohahle that the entire crop can he gotten in hefore the fall rains set in.

Butte.

FAMOUS ORANGE TREE.—*Pacific Bee*: The iargest and oldest orange tree in the county, and prohahly also in the State, with the possible exception of some trees at the Missions, is at Bidwell har on the Feather river, nine miles above Oroville. It is described as follows hy Hiram Arents and published hy the Oroville *Register*, May 13, 1886: "This tree, a seedling from an Acapulco orange, was hrought from Sacramento by John Morrill and planted at Bidwell har in 1859; then it was four years old. This will make the old pioneer thirty-one years old. The tree did not produce fruit until 1865. It is now (1886) 25 feet high, 23 feet spread of hranches and nearly 16 inches in diameter at the hase, and in circumference 47 inches. That orange tree has stood the test of twenty-seven winters in its present locality, and no frost has been severe enough to injure or prevent it from producing a fine crop of oranges, from 1000 to 2500 yearly." The tree thus described thirteen years ago is still flourishing and yields annually good crops of fruit.

Colusa.

APRICOT PIT INDUSTRY.—Colusa *Sun*: Walter G. Read has several of his almond hullers at work at Napa taking the kernel from the apricot seeds. Mr. Read has a contract to shell 300 tons of pits this season and thinks that next season nearly all the pits, where apricots are dried, will he saved and put through the process. He guarantees before starting not to hreak more than 15% of the seeds and so far he has not hroken 5% of them.

Fresno.

GRAIN BUSINESS.—Reedley *Exponent*, June 29: Ahout 2400 sacks of wheat per day are coming into our warehouses and in a very short time will reach the 3000 mark. It looks like old times in spite of the dry season.

THOUSAND SACKS PER DAY.—*Republican*, June 29: Clovis Cole is now running four combined harvesters, to each of which are attached twenty-eight horses. He expects soon to put on three more harvesters. Mr. Cole is sending into the warehouse a thousand sacks of wheat a day. He is farming the largest tract of land in the State.

Glenn.

BIG GRAIN CROP.—Willows *Journal*, June 30: Harvest is progressing finely and every one getting fully as much as they expected. Many old-fashioned headers are at work in the north end of the county and in the foothills. This not heing threshed yet the yield is unknown, but the grain is all full and plump. The only disappointment is among some of the large farmers in the St. Johns section, where rust attacked the wheat in certain places. Glenn county has a hig crop of wheat, barley and hay.

Inyo.

COUNTY FAIR.—Inyo *Independent*, June 23: At a meeting of the board of directors it was decided to hold the next fair from September 19 to 22, inclusive.

Merced.

BARB WIRE TELEPHONE A SUCCESS.—Stockton *Mail*, June 27: E. C. Dickinson went to LeGrand, and while there tried the barbed wire fence telephone system. He talked a distance of about four miles over the line, and claims that the sound was carried hetter than by the regular system. The electrician in charge of the work is now engaged in putting in the fourth telephone hox. All the residents of the country ahout LeGrand are desirous of having a 'phone put in, as the system is proving to be a success.

Kern.

VALUE OF IRRIGATION.—Bakersfield *Californian*, June 29: An artesian well on land helonging to Miller & Lux near the lake was used for irrigating a sixty-acre field three times last year. A sorghum crop was raised, the yield being heavy enough to furnish feed for 300 head of cattle from December 15 to March 1.

Los Angeles.

RABBIT INDUSTRY.—Pasadena *News*: A hare ranch was started three months ago hy Allen & Carnes, who imported a number of thoroughhred Belgian hares, paying $10 for each. These animals are a little smaller than our jack rabhits, but have a fine, soft coat on their hacks, which is valuahle in the manufacture of fur goods. It is chiefly for this purpose that the above-named gentlemen have engaged in the business, although the fiesh of these rodents makes a dainty dish and has a ready market at the hotels. The firm also has a stock of Angora and cottonball rabbits, which are desirable for their fur and and also as pets.

Mendocino.

AGRICULTURAL ASSOCIATION.—Ukiah *Press*, June 30: A meeting of the Board of Directors of the Twelfth District Agricultural Association, held Saturday, was presided over hy L. G. Simmons, who appointed the following committees: Executive — Directors Smith, Hildreth, Van Dusen and Souadamore. Finance—Directors White and Mannon. Printing—Directors Rideout and Van Dusen. Superintendent of Stock, Director Hildreth; Superintendent of Pavilion, Director White. The Superintendent of Pavilion was authorized to lease hoth of the local opera houses for the week of the fair.

Monterey.

BEET PROSPECTS.—Salinas *Journal*: H. C. Grother, superintendent of the heet fields for the Spreckels Sugar Co., states that the heet crop in the Castroville and Moro Cojo regions promises to he the best yield ever produced in the Salinas valley.

TALL OATS.—Salinas *Index*, June 29: San Miguel canyon, which is noted for its fine fruit, now comes to the front with tall oats. C. F. Langley yesterday brought to this office from Prunedale a hundle of oats, the individual stalks of which were 8 feet 5 inches in height. Some of the heads surmounting the stalks were 2 feet in length, with kernels large, plump and heavy. The straw looked more like cornstalks than anything else. Mr. Langley does not know the name of the oats.

San Bernardino.

WATER COMPANY INCORPORATED.—*Sun*: Articles of incorporation have heen filed for the Highland Well Company, with the principal place of husiness at Highland, the capital stock $25,000, in 750 shares of $33.33⅓ per share, there heing one share issued to each 1-150 of the land, ditch and pipe line, allowing the owner of that share that proportion of the water developed. The Board of Directors are J. B. Tyler of San Bernardino, C. L. Frazer, Rohert Bosworth, W. H. Ham and J. H. Bagwell of Highland.

ONE DOLLAR AN INCH.—*Times-Index*, June 30: Some time ago F. E. Brown offered to dig wells and pump water for 25 cents per inch per day. Half of this amount was to go to the Bear Valley Reservoir Company for the use of their reservoir, ditches and pipe lines. After making a practical working test of the scheme, Mr. Brown found that he could not furnish water for the price, and as the Redlands people said they would not raise the price he shut down. Seeing that the water really could not he furnished for 25 cents an inch, the Redlanders have agreed to pay 50 cents an inch. Of this Mr. Brown gets 37½ cents and the Bear Valley Company 12½ cents as hefore. Mr. Brown has only one pump at work, but that one throws a stream of 150 miner's inches. The water is measured at Bear valley, and owing to seepage and evaporation it is estimated that hy the time it reaches Redlands an inch of water is worth $1 an inch, or in other words, only one-half of the water that leaves Bear valley ever reaches the orchards.

San Diego.

CITRIC ACID FACTORY.—*Union*, June 29: The citric acid factory at National City is running full hlast, lemon culls coming in fast at the present time. The oil of the lemon is extracted and reduced by a mechanical process that is giving good results. After the supply of lemons runs out, or, rather, when the rush is over, attention will he given to the manufacture of the acid.

San Joaquin.

BIG GRAIN CROP.—Stockton *Mail*, June 30: Harvesters are at work throughout the valley and already considerahle new grain, mostly harley, is on the market. During the past week Captain J. W. Smith has purchased ahout 25,000 sacks of the new crop from points in this part of the valley and shipped it to Port Costa. "More grain has heen raised in this county this year than ever hefore," said Captain Smith. "Fully one-third of the yield is barley. The average yield of grain in San Joaquin county is 125,000 tons, hut this year it will he ahout 150,000 tons. The reason for the extra large yield is the increased acreage. This year over 400,000 acres are given to grain, and this is 50,000 to 100,000 acres more than has heen used heretofore. The fact that the land rested last year, owing to the failure of the grain crop, has also caused twice as hig a yield as usual in some places. There was a man in my office this week who told me that from some of the hlack land he was farming he was harvesting this year seventy-five bushels to the acre."

San Luis Obispo.

CREAMERY BURNED.—Dispatch, June 30: The Home creamery huilding, 3½ miles north of Cambria, was burned to the ground to-day. The loss is $4506 on the huilding, $2500 on machinery and $1000 on the contents.

Santa Clara.

TO HOLD A FAIR.—San Jose *Mercury*, June 30: At a meeting of the directors of the Agricultural Association, District No. 5, held yesterday, the following officers were elected: President, George Y. Bollinger; vice-president, W. B. Rankin; treasurer, Paul P. Austin; secretary, Frank Armstrong. It was decided to hold a fair and race meeting during the coming fall, and Messrs. Rankin, Covey and La Spada were appointed to confer with the Santa Clara Valley Agricultural Society in regard to the use of the grounds. P. P. Austin, E. Topham and W. A. Parkhurst were appointed a committee to wait upon the Board of Trade and ask its assistance in promoting an exhihit of agricultural products and machinery. It was decided that the society should join the National Trotting Association.

Solano.

EARLY PEARS FOR EXPORT.—Suisun *Republican*, June 30: Last Saturday two carloads of pears, which came from orchards in Suisun valley, were sent East and are to go direct to London.

GRAIN HARVESTING.—*Republican*, June 30: Harvesting in the Suisun district is under way and grain is turning out hetter than was expected. Lewis Morrill finished threshing 130 acres of volunteer harley this week and was surprised to find that the field yielded thirteen sacks to the acre. A field of wheat adjoining, upon which no grain was sown last winter, is turning out ten sacks to the acre. John Talhot, whose ranch is in the Collinsville district, has finished harvesting 200 acres of harley, which netted more than twenty sacks to the acre.

Sonoma.

LARGE BERRY CROP.—Healdsburg *Tribune*: T. E. Barlow, whose place is two miles and a half west of Sehastopol, has eight acres in raspberries which will yield four tons of fruit, for which he expects to receive $100 a ton on the cars in Sehastopol. He has thirty acres of hlackberries, twenty of which are in hearing this year. The yield will he about forty tons, and the market price will be $40 a ton. The berries are shipped to the canneries in San Francisco. Mr. Barlow states that there will he only ahout 5% of a normal crop of prunes in that locality. The yield of peaches, however, will be far ahove the average. Apples, also, will be a very full crop.

NEW DRIER.—Petaluma *Courier*, June 28: N. R. Lohh and Fred Thiessen are erecting a 2-story huilding to he used as a fruit drier. The structure will be 48x56 feet. All of the machinery will he up to date, and an electric motor will drive the peelers, corers, etc. The output of dried fruit will he nearly two tons per day.

Sutter.

GOOD CROP PROSPECTS. — Dispatch from Woodland, June 28: A Knights Landing special says that fields on the Sutter side, in which the first crop of beans, corn and potatoes were destroyed hy the flood waters, have heen replanted, and the outlook for hig crops is very promising. The apple and peach crop along the river will he very large.

HEAVY BARLEY CROPS.—Yuha City *Farmer*, June 30: In this vicinity the largest yields reported have been on J. H. Brockman's ranch, below town, where the harley made twenty-two sacks to the acre, and on H. R. Frohn's forty acres on the Madden place, ahove Yuha City, where 1012 sacks were harvested. These are hoth on upland. The farmers in District No. 70 are more than realizing their expectations, some fields along the river making as high as thirty-five sacks to the acre. The wheat also is making a higher average than anticipated, and the total output of grain from this county this year promises to be the heaviest for several seasons.

Tehama.

CARLOAD OF FRUIT PAPER.—Red Bluff *News*: Stice & Burtt have received 30,000 pounds of fruit paper, making a full car, to he used for packing this season's crop of fruit which this firm will ship. The pear crop on the Cone ranch alone will amount to ahout sixty carloads.

Tulare.

BIG OAKS.—Visalia *Times*: There is an oak on the John Bidwell rancho in Butte county that is a rival to our noted oak near Farmersville. The Bidwell tree is 75 feet high, and the spread of its branches is 126 feet in diameter. The trunk is 26 feet in circumference and ahout 8⅓ feet in diameter. The oak tree near Farmersville is something more than 27 feet in circumference, hut the spread of its hranches will not compare with the Butte county oak.

Ventura.

BUYING SUGAR BEET LAND.—Dispatch from Oxnard, June 28.—Henry T. Oxnard, president of the American Beet Sugar Company, confirmed the purchase of the Patterson Ranch tract of 5000 acres of the most fertile land in this section. The price was $600,000. This will make 12,000 acres of land owned here hy the company, and renders it independent of farmers for beet culture. The tract will not be operated hy the company, hut leased to small holders. Only certain parts of the lands are to he farmed each year. The amount of land is sufficient to allow rotation of crops, thus providing against exhaustion of the soil.

Yolo.

SEEDING PLANT MOVED.—Woodland *Mail*, June 27: The raisin seeding plant of Messrs. W. J. O'Connor and J. B. Steward is heing moved from Chico to Woodland. It will he in operation for this season's crop.

ALMOND GROWERS' MEETING. — Woodland *Mail*, June 24: The almond growers of Davisville held a meeting yesterday and decided to ask for bids for their crops sacked ready for shipment. They also asked for hids for the sacks needed. The entire crop will he sold in one bulk. The association will meet again on July 15, at which time the bids for the crop will be considered, and an election of officers will also be held.

Yuba.

SALE OF CREAMERY. — Marysville *Appeal*, June 29: At a meeting of the board of directors of the Browns Valley Creamery Co. the written approval of the sale of the creamery to Hugh Maguire, signed by two-thirds of the stockholders, was presented. The sale was confirmed by the directors.

ARIZONA.

BEE ISPECTOR.—Phœnix *Farmer*: The Supervisors appointed George Rorig, of Tempe, Bee Inspector, in accordance with an act passed at the last Legislature. He will serve without salary, and his expenses are to be met hy assessment of the Bee Keepers' Association.

HEMP INDUSTRY.—Yuma *Sun*: Sylvester B. Comstock, president of the Colorado River Fiber Company, has demonstrated, during a year's experiments with a small plant, the entire feasihility of the enterprise projected and the possihilities which lie in the reduction to fiher of the extensive areas of hemp which form a natural growth of the Colorado river bottom. The hemp is ahundant and the article of fiher produced has been pronounced hy experts to he of the very finest quality. Owing to the annual overflow, which has inundated the hemp fields, thus insuring a good growth for next season, the company's works are closed down. As soon as the overflow recedes, the company proposes to institute active preparations for the installation of expensive and extensive machinery and to the fullest extent develop the great enterprise.

NEVADA.

PROSPEROUS SEASON.—Reno *Stockman*, June 29: A. M. Ward of Surprise valley says farmers are making improvements and have not heen as prosperous in years. The farmers are experiencing some difficulty in getting enough lumher for the house and fence building in contemplation. Stock is looking well.

OREGON.

FRUIT PROSPECTS.—*Northwest Horticulturist*: The severe frost of February has injured the peach, apricot and prune crop in sections east of the Cascade range, and on account of the heavy yield last year, the apple and pear crops will not he so large this year. The strawherry crop is good and the cherry crop fair. The prolonged cool weather during spring, especially in the hlossoming period of the Italian prune, has seriously affected this variety. While conflicting reports are given it is probahle that the yield will be from one-fourth to one-third crop in most of the Italian prune sections. In most places the French and Silvers will yield nearly full crops. Pears and cherries are also promising fair crops west of the Cascade range.

BIG GRAPEVINE.—Eugene *Guard*: Twenty years ago a Muscat grape cutting was planted at the log house now owned hy Fred Warner on Fall creek. To-day prohahly not another vine equals it in growth and quantity of fruit produced. One foot from the ground the vine measures 29 inches in circumference. Three feet above the ground it makes three forks, two of which measure 13 inches in circumference twenty-seven feet from the ground. Each of these prongs extends in opposite directions 75 feet from the stump, while the third prong runs at right angles 50 feet. The vine runs over the house and into the timher on trelises 15 feet wide. Seventy-five feet from the stump mats of roots may be found. The immense power of timher growth is exemplified hy the vine. In the early years one of the prongs was allowed to grow between the logs into the house, and was trained out over the top of the log under which it entered. The slow, unyielding growth has sprung the timher, which is 12x14 inches in size, six inches out from the line of the wall in the middle of the huilding, the ends heing firmly held hy dovetails. Our informant is of the opinion that five tons would be a conservative estimate of the amount of fruit produced by the vine last year.

SHEEP SHIPMENTS.—Portland *Farmer*, June 22: C. H. Shurte, of the Mallory, Son & Zimmerman Packing Co., says that during May and June he will have shipped East from Oregon 100,000 head of sheep. By fall he expects the number to reach 200,000. He places the total numher of sheep that will he shipped from Oregon this year at 400,000. Ahout 100,000 of these will he "trailed"—that is, driven to market, instead of shipped on railroads. He says Oregon can make a great hit hy hreeding sheep for market. All conditions, climatic and otherwise, are just right.

WOOL SALES.—Portland *Oregonian*, June 28: Last week sales of wool, at Huntington, amounted to 125,000 pounds. The price ranged from 12 to 13½ cents.

WASHINGTON.

STATE FAIR.—Seattle *Post-Intelligencer*, June 15: The State Fair Commission reports everything working harmoniously for a general exhihit of Northwestern farm products, fine stock and manufactured articles at the fair to he held at North Yakima Sept. 25th to 30th. The premium list is being prepared and will he mailed to those contemplating making exhihits. Two prizes are offered for the best displays of the field, garden and orchard. Among the valuahle special premiums for which numerous entries are promised is that of a fine family buggy, which Studehaker Bros. propose giving to the farmer making the hest display of products grown upon his own farm. This offer applies to all sections and is open to every farmer.

FERTILIZING COMPANY INCORPORATED.—Dispatch from Seattle, June 28: Articles incorporating the North American Fish & Fertilizing Co. were filed here to-day. The capital stock is $1,500,000. The incorporators are Nicholas Ohlandt, C. W. Coburn and Alexander Morrison of San Francisco, J. S. Goldsmith, Jacoh Furth and E. Neufelder of Seattle. The company has secured the Robinson & Colt fertilizing plant at Anacortes, which will he ultimately enlarged to an annual capacity of 300,000 gallons of fish oil and 300,000 tons of fertilizer. The statement that the incorporation is a prelude to the formation of a combination hy the five fish oil and fertilizing factories on Puget sound, with a capital of $2,500,000, is denied by the incorporators.

Horse Owners! Try GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

Beautiful Willamette.

From the Cascades' frozen gorges,
Leaping like a child at play,
Winding, widening through the valley,
Bright Willamette glides away;
Onward ever,
Lovely river,
Softly calling to the sea;
Time that scars us,
Maims and mars us,
Leaves no trace or track on thee!

Spring's green witchery is weaving
Braid and border for thy side;
Grace forever haunts thy journey,
Beauty dimples on thy tide.
Through the purple gates of morning,
Now thy roseate ripples dance:
Golden, then, when day, departing,
On thy waters trails his lance;
Waltzing, flashing,
Tinkling, plashing.
Limpid, volatile and free—
Always hurried
To be buried
In the bitter, moon-mad sea.

In thy crystal deeps, inverted,
Swings a picture of the sky,
Like those wavering hopes of Aidenn
Dimly in our dreams that lie;
Clouded often, drowned in turmoil,
Faint and lovely, far away—
Wreathing sunshine on the morrow,
Breathing fragrance round to-day.
Love could wander
Here, and ponder—
Hither poetry would dream:
Life's old questions,
Sad suggestions,
"Whence and whither?" throng thy stream.

On the roaring waste of ocean,
Soon thy scattered waves shall toss;
'Mid the surges' rythmic thunder
Shall thy silver tongues be lost.
Oh, thy glimmering rush of gladness
Mocks this turbid life of mine,
Racing to the wild Forever,
Down the sloping paths of time—
Onward ever,
Lovely river,
Softly calling to the sea;
Time that scars us,
Maims and mars us,
Leaves no track or trace on thee!

—Sam L. Simpson.

Romance of the Matilija.

In the year 1778, a cruel thing befell the Indians who roamed the hills and valleys of the region now known as the San Buena Ventura country. Under the leadership of their chief, Matilija, they had lived in peace with the world and themselves until a rude civilization broke in upon them. All the beauty and richness of the land were theirs; the grand old ocean tossed for them alone. The Franciscan friars were beginning to establish missions along the coast from what is now San Diego to San Francisco. The first mission, established in 1769, six miles back from San Diego bay, in a beautiful little valley, was flourishing nicely; many Indians had been converted to the new order of things, under the wise management of Father Luis Jaume and his brother padres.

In a few years, encouraged by this success, the San Buena Ventura (St. Good Venture) Mission was built, only one link in the chain which now extended from the south to the north of California, then a part of Mexico and under the Spanish rule.

The Ventura Mission, as were the others, was placed under a guard of soldiers, since the Indians were sometimes rebellious and treacherous, as was the case in San Diego, where many of the good padres were murdered. The mission was built after the usual style and of adobe. Its gardens, chimes and court, the images of the blessed saints, the altars, and the gray-gowned friars, all made up a life that in after years was the subject of famous artists and writers.

In most cases the Indians were docile and submissive, wearing out their poor lives building and laboring for their benefactors—for the fathers were helpful to them and wrought a great good in their lives. But Matilija and his band of braves, who had their stronghold in the upper canyons of the Ojai valley would not submit to put their necks under the mission yoke, whatever the good it might do them in a spiritual way.

The Ojai valley (Indian name for ...st) is one of the fairest spots in California — just fifteen miles from the ocean, lying snugly among the mountains with great canyons running for miles back to the heart of the hills. One of these, at the northern end, was the sporting and feasting ground of the Indians. It was reached by a circuitous trail which crossed and recrossed numberless times a branch which in the winter season was a roaring river.

The canyon seems, indeed, to be the home of untamed love and war; its sides seem at some places to have thrown themselves into fierce embrace, while only a few miles above they retreat gently, and between them lie myriads of nature-kept gardens. There are excellent sulphur springs, both hot and cold. These the Indians believed were a remedy for all the ailments of their race. The place is even now a popular health resort; hundreds of tourists rave over its romance and wild beauty.

Careya, the daughter of Matilija, was the idol of her people. For her, the old chief had chosen the bravest warrior in the valley, Cocopah, a young Indian who had been the playmate of Careya since her earliest childhood. For these two, and for the future of his race, Matilija was sacrificing the lives of his warriors in his resistance against the mission rule.

There had already been several slight skirmishes between the mission soldiers and the Indians, but the final conflict was one of the cruelest that ever marred the mission records. It was a lovely March day in 1778; the wild canyons were echoing with the songs of birds and the ripple of the water over the great boulders. The Indians felt secure in their retreat, and were as happy and as ignorant as babes of the fate that awaited them.

Just as the sun was beginning to pay bo-peep with the nodding canyon poppies, a troop of soldiers rode along the winding, sequested trail which led down into the heart of the canyon. They were laughing loudly and speculating upon the chances of success. One of them, a stalwart Spanish youth, quarreled lightly with his companion as to who should have the honor of carrying away the Indian maiden Careya. Should they but capture her and kill her father the stronghold would be broken, and the little band would have to submit to the government of the padres. Careya would be an ornament to the mission; her wild beauty and pleasing demeanor had been noticed by the soldiers and she was a coveted prize indeed.

In the midst of the planning and quarreling an echoing yell rent the air, and from behind a projecting boulder a group of desperate Indians burst forth. In vain they fought like wild beasts; in vain old Matilija called to his warriors; they were slain, until in terror at the spilling of their blood they rushed far up the canyon, dragging with them the aged chief.

The soldiers, hilarious over their bloody work, pressed on and on, looking for Careya. With the other women of the camp she was discovered, and in triumph all were carried captives to the mission fifteen miles away.

Careya was meek, yet in her sullen, unchanging face there was a set determination. By the flatteries of the dashing Senor Somera she remained unmoved; her faithful heart was aching for her slaughtered race and her lost lover. Within the gray mission walls she was docile, learning her new tasks well.

Unusual liberty was allowed her, since she had become so gentle and had adapted herself willingly to the new life about her. In her soul Careya was pining for liberty with the passion of an Indian maiden. Her captive companions were small comfort to her, as they were happy in their new-made homes, many of them having become wives of the soldiers. The fathers were kind to her, very kind, and she was learning to love them, but one dark night the voice called her; fleeing like a frightened bird, on and on she ran. At night she tramped in and out among the hills, through the beds of little streams she found her way, stumbling over the boulders and sometimes flying in fright when she imagined that she heard the tramp of horses' hoofs.

Exhausted, she sank upon a bit of grass at the foot of a gnarled old live oak tree and rested, until the memory of her old home drove her on with increased strength. Just as the mountains were beginning to show a faint outline against the eastern sky, she fell prostrate against her father's wigwam. The next day a great fiesta was prepared in honor of the homecoming and the betrothal of their idol to the young chief Cocopah. It was the last fiesta that ever resounded through the canyon, for in the midst of the festivities the soldiers appeared, and death or capture was the fate of the remainder of the brave band of Matilija.

When the conflict was over Careya could not be found. Loud cursing and fierce racing through the depths of the Indian home failed to discover her. With their little bronchos, bleeding from the cruel spur and bit, the men slowly returned to the mission, baffled, yet triumphant at the extinction of their old enemies.

In the dusk of the dying day Careya knelt beside her dying lover. "Majella, Majella," he murmured as he stroked her brown hand. Just as the last blaze of crimson glory slowly changed into a dull purple against the evening sky the spirit of the Indian youth took its flight and mingled itself with the glory of the dying day. All through the chill night the Indian maiden knelt beside her dead hero; when the morning dawned she lifted his body and to the highest ridge of the canyon cliff carried him in her loving embrace.

They were safe now; the soldiers could not find them. She would keep watch, for she could see away out over the country, even to the rolling ocean beyond. The day closed with a bright farewell of rosy sunbeams, and still she kept her faithful watch. Morning dawned; mountain and ocean were bathed in happy sunlight. At eventide the sunbeams played about the still form and glittered through the raven locks of the Indian maiden, and still she watched over the cold form beside her. Away out to sea a last little sunbeam quivered for a moment on the quiet waters, and the soul of Careya went out to meet it.—A. H. Greene in Los Angeles Times.

To Be Cheerful.

The sovereign voluntary path to cheerfulness, if our spontaneous cheerfulness be lost, is to sit up cheerfully, to look round cheerfully, and to act and speak as if cheerfulness were already there. If such conduct doesn't make you soon feel cheerful, nothing else on that occasion can. So, to feel brave, act as if we were brave, use all our will to that end, and a courage fit will very likely replace the fit of fear. Again, in order to feel kindly toward a person to whom we have been inimical, the only way is more or less deliberately to smile, to make sympathetic inquiries, and to force ourselves to say genial things. One hearty laugh together will bring enemies into a closer communion of heart than hours spent on both sides in inward wrestling with the mental demon of uncharitable feeling. To wrestle with a bad feeling only pins our attention on it, and keeps it still fastened in the mind, whereas if we act as if from some better feeling, the old bad feeling soon "folds its tent like an Arab and silently steals away."—Prof. James, in Scribner.

"How will you have your eggs cooked?" asked the waiter.

"Make any difference in the cost o' 'em?" inquired the customer, cautiously.

"No."

"Then cook them with a nice slice o' ham," said the customer," greatly relieved.

WHAT we want," said Aguinaldo, "is liberty and independence."

"What for?"

"Why, so that we can capture people and demand ransom for 'em without being interfered with."

Two Lives.

You take the crowded city streets,
With life and shops galore;
I'll take the little woodland paths
Down by the river shore.
You take the public gardens, where
All is arranged by plan;
I'll take the scenes laid out by God,
And undisturbed by man.

You take the fountain on the lawn;
And listen to its tale;
I'll listen to the little brook
That murmurs through the vale.
You live the artificial life,
And I will live the real;
And joy will come to me in mine
That yours can ne'er reveal.

—Joe Cone.

The Gracious Lady of the White House.

Very much has been said and written of Mrs. McKinley, and yet the half of her gentleness and beauty of character has never been told. Her most charming characteristic is her perfect sincerity and thoughtfulness for others. No day passes over her head without her doing something for someone. If she hears of an affliction of any kind overtaking anyone—no matter how much a stranger—she will immediately order something sent to that person, if nothing more than a bunch of flowers or a cheering message; in some way she conveys her sympathy and good wishes.

Her friends endeavor to keep from her knowledge many instances of illness or sorrow, because she immediately makes a personal matter of them, and is untiring in her interest until all is well again. No one ever hears her utter a complaint about her own ill health. She is always bright and cheerful, never in any way alluding to herself, or to the affliction that has held her captive for more than twenty years. Her refined face, sweet smile and tender expression, reflect the spirit of resignation and loveliness which suffering has wrought. She is interested in everything, with the enthusiasm of the most vigorous and active of women. Her busy fingers have wrought much for charity. Some time ago she had finished more than three thousand five hundred pairs of knitted slippers for ladies and children, all of which have been given to friends or for charity to invalids. Many of these slippers have been sold for large sums at church and charity fairs. It does not require an expert to figure that by her own hands Mrs. McKinley has earned a considerable sum for benevolent purposes. Her example of continuous employment demonstrates that occupation is the surest defense against ennui and depression of spirits and morbidness from enforced confinement, most of the time within doors.

The young women of to-day, in whom she is devotedly interested, should profit by her example and refrain from the reckless waste of time to which all too many of them are inclined.

Her devotion as mother and wife amounts to idolatry. The pictures of her angel babies are ever before her. She never wearies of speaking of them and their cherished beauty and winsomeness. When listening to her as she talks of them with so much motherly tenderness, one can scarcely believe that a score of years have come and gone since they joined the cherubs in heaven. Her adoration of her husband is well known. No one can be in her presence long without feeling convinced that "out of the fullness of her heart her mouth speaketh." She idealizes him in a way that is perfectly beautiful; to her he is far more than a perfect man—he is divine. She descants upon him with all the fervor of a maiden in her teens. She deeply appreciates the thoughtfulness that prompts him to leave Cabinet meetings or other important councils, if they are at all protracted, to seek her and see that she is happy and has the companionship of some agreeable person. She is never left alone, or allowed to become *ennuyee* by the society of tedious people. No matter of State could ever so engross the President as to make him forget his delicate wife for an hour. She enjoys everything the President does—traveling, driving, music, birds, flowers, the sight of people. She can

never be induced to be separated from her husband even for a day, unless it is impossible for her to accompany him. The writer heard her rebuke a wife one day who announced her intention of going to Europe, leaving her husband and children at home; and I am not sure, after Mrs. McKinley's remarks, that the lady had the heart to carry out her plans. If she did, I am sure her conscience must have reminded her of what the "First Lady in the Land" thought of wives who put the sea between themselves and their families. Verily the domestic felicity of the President and Mrs. McKinley demonstrates that there exists in this world of infelicity at least "two souls that are as one."—Mrs. John A. Logan, in Frank Leslie's Monthly.

What to Eat in Summer.

All starchy foods, sugars and animal fats should be sparingly used during the summer months. Vegetable fats, like salad oil, instead of clogging the system and producing more heat than is needed, assist in cleansing the intestinal canal, soothing and healing the delicate lining of the stomach, feeding the skin and purifying the blood. Rice, potatoes, maple syrup, cakes, sweet puddings, all these heat-producing foods should be left for winter use, along with fried cakes, chocolate, fried pork, ham, corn bread and buckwheat cakes. Eat the cooling vegetables and fruits, the energy-producing, muscle-building foods, lean meats, plain breads. Use the lighter cereals in the place of oatmeal, and learn to drink coffee and tea without sugar and cream. Take plenty of fruit, especially at the beginning of breakfast. With some digestions acid fruits of any kind disagree, and should be avoided. Among the sweet fruits that agree with all are baked bananas, a most valuable food, baked sweet apples, stewed figs, dates and prunes. The three last, if used in the dry state, should be soaked thirty-six hours in plenty of water, the fruit gently lifted out, the water strained, and the fruit gently stewed until soft, and eaten without sugar. Grapes are perhaps our most valuable fruit, especially to those inclined to anæmia, dyspepsia or consumption, torpidity of liver or gout. Drink plenty of water. Sipped slowly, it is a powerful stimulant to the circulation, feeding and clearing the skin.

Fitzsimmons' Wisdom.

Frank Leslie quotes the ex-champion prizefighter as saying:

"Yes, I wish I had never left the forge, but had been content to go humbly and contentedly on my way to the end. I don't know how or why I took up the ring as a means of livelihood. It all began in the usual way—amateur exhibitions, poverty, and the chance to win money. It seems to me that mine was a case of what you fellows call predestination—as if I had been driven by a power above and beyond me.

"I have had no ambition in this thing—no real wish to win. I hate prizefighting. I hate the atmosphere of the ring. I hate the society of the sporting men. I won't go near them. I won't cross the street to see a fight. My home—all my thought is in my home and my babies. That is why I am not 'one of the boys.' I don't like the barroom. I am not a 'good fellow.' My experience of the 'good fellow' teaches me that he is always a selfish, cold-blooded humbug and fraud, without heart or conscience."

And this was said before his fight with Jeffries.

TEACHER—Johnny, can you tell me what is meant by "steward?"

Johnny—A steward is a man that doesn't mind his own business.

Teacher—Where did you get that idea?

Johnny—Well, I looked it up in the dictionary, and it said, "A man who attends to the affairs of others."

When he proposed, he looked so cheap,
And she was only human;
The bargain she could not resist,
So she took him—like a woman.

July.

First April, she with mellow showers
Opens the way for early flowers;
Then after her comes smiling May,
In a more rich and sweet array;
Next enters June, and brings us more
Gems than those two that went before;
Then, lastly, July comes, and she
More wealth brings in than all those three.
—Herrick.

How to Climb Stairs.

Many people will be surprised to know that there is a scientific way of walking upstairs. A physician, in telling how it is done, says that usually a person will tread on the ball of the foot in taking each step. This is distinctly a bad practice. It wears and tires the muscles, as it throws the entire suspended weight of the body on the muscles of the legs and feet.

In walking upstairs the point to be secured is the most equal distribution of the body's weight possible. The feet should be squarely placed on the step, heel and all, and then the work should be done slowly and deliberately. In this way there is no strain upon any muscle, but each one does its duty in a natural manner.

The practice of bending nearly double when ascending stairs is extremely pernicious. It cramps the lungs and makes the heart work harder. A slightly forward inclination is all that is necessary to make the method of going upstairs above described a much less laborious task than it usually is.

Meat and Fruit.

Prof. Slikbile says: The majority of people eat more meat than they require. Meat eaten once a day is sufficient for a person not engaged in manual labor or who does not take much strong outdoor exercise. A large number of complaints contracted owe their origin to the consumption of food, which entails a greater drain on the gastric juices than the system is liable to withstand. The cures attributed to the grape occur for the most part with those who are accustomed to high living, and are really owing to the fact that the organs of digestion are given a much-needed rest. Semi-starvation would answer the purpose almost as well. For the person whose work lies chiefly indoors, a mixed and varied diet is most conducive to good health.

Woman's Wit and Dr. Johnson.

Dr. Johnson's tongue spared nobody, and naturally enough if any one ever got the better of him in a verbal encounter, it was considered a memorable victory.

In this spirit a Scotch family cherishes an anecdote of his trip to Scotland. He had stopped at the house for a meal, and was helped to the national dish.

"Dr. Johnson," said the hostess, "what do you think of our Scotch broth?"

"Madam," was the answer, "in my opinion it is only fit for pigs."

"Then have some more," said the woman.

LET any man carry his own burden, and he is doing much more than saving himself. He is, perhaps, making the best possible contribution to the strength of the common life. Let any man be lavish of his strength in serving others, and he is doing much more than helping others. He is re-enforcing his own strength to carry his own burden.—Francis Greenwood Peabody, D. D.

LADY OF THE HOUSE.—I should think a big, strong fellow like you would rather work than go around begging.

Tramp—I ain't got no fambly, and I'm afraid if I went to work I might crowd out some poor chap wot has little ones to support.

Music hath charms to soothe a savage breast,
To soften rocks or bend a knotted oak.
I've read that things inanimate have moved,
And, as with living souls, have been inform'd
By magic numbers and persuasive sound.
—Congreve.

DOMESTIC ECONOMY.

Domestic Hints.

MAPLE SUGAR SAUCE.—To half a teacupful of butter add a tablespoonful of flour and stir thoroughly; stir a teacupful of maple sugar into a teacupful of water, add the butter and stir well and let it boil. This is very nice to serve with any kind of steam pudding.

CODFISH BALLS.—Pick fine sufficient salt cod to fill a quart measure, cover with cold water and set on the back of the stove where it cannot possibly boil, and keep very hot for two hours. Drain and mix with three cupfuls of mashed potatoes. Season well with salt and pepper, add two well-beaten eggs; form into balls or drop from the end of a spoon into smoking-hot fat. When golden brown drain on unglazed paper and serve on a hot platter.

LADY FINGERS.—Beat yolks of four eggs, add one-half cup powdered sugar, one-eighth level teaspoon salt and one teaspoon vanilla, and beat until lemon colored and creamy. Beat whites until stiff and dry and mix them with yolks. Then fold in lightly three-fourths cup sifted pastry flour. Put the mixture into a pastry bag with plain tube in end, and press through into strips one inch wide and from three to four inches long, on a tin sheet covered with ungreased paper. Sprinkle with powdered sugar and bake ten to fifteen minutes in moderate oven.

SPANISH OMELET.—Chop fine one-quarter of a pound of fat bacon and one medium-sized onion. Put both in a small saucepan and place at the side of the fire until the bacon is well tried out and the onion begins to change color, then add three large tomatoes peeled and cut fine. Stew slowly until the mixture is quite thick, and season with white pepper or a dash of cayenne. When the omelet is nearly set put a few spoonfuls of the mixture in the center, roll up, transfer to the hot platter and pour the remainder of the mixture round the omelet.

STRAWBERRY BAVARIAN CREAM.—Stem two and a half-pounds of ripe berries, mash them through a colander and add six ounces of powdered sugar to the juice. Soak half a box of gelatine in cold water two hours; when the sugar is dissolved strain through a sieve and add the gelatine. Stir until dissolved. Meanwhile put a pint of milk on the ice for some time to get it thoroughly cold. When the gelatine is cool enough add the juice of an orange and and a few drops of lemon juice and the puree of strawberries by degrees. Place it on ice, and as it thickens mix in five or six tablespoonfuls of whipped cream with as few strokes as possible. Rinse a mold with cold water, fill with the mixture and set away to harden. When firm turn it out and serve with a pitcher of whipped cream. This is a delicious dessert.

Hints to Housekeepers.

Little onions are now boiled and served on toast, after the manner of asparagus. This affords a change from the stereotyped way of serving, and will usually be found most acceptable.

Turpentine and linseed oil in equal parts make a good mixture for furniture. For sun streaks a solution one-third sweet oil and two-thirds alcohol is an excellent mixture. A soft cloth slightly dampened with kerosene will restore the polish.

A novice can paint a window sash nearly as well as a professional by using a piece of tin, the size of a pane, with a handle. Wipe off any adhering paint with a cloth moistened with kerosene. To imitate frost glass, put some putty in cheesecloth and twist the ends to form a pad, then with it pat the glass until well covered with a milky-white stain. When perfectly dry give a coat of good varnish.

Of course, every good housekeeper sees that the stains are removed from the linen before it goes to the wash. If it is not convenient for you to use lemon juice and salt to take out iron rust spots, it may be easier to buy lemon salts to keep on hand for such an emergency. The salts are sometimes stronger than the lemon. Grass stains will always yield to cream of tartar if the spot is wet and well rubbed.

A paint that dries quickly, for floors, is made by dissolving with heat three ounces of glue in three quarts of water. Stir well, remove from the fire and beat in three pounds of yellow ochre. With a new whitewash brush apply a thick coat. When dry, apply a coat of boiled linseed oil. To oil a new hardwood flour, mix thoroughly four quarts of raw linseed, two quarts of turpentine and one pint of best Japan varnish.

To clean gloves buy one of the wooden hands which are now on sale and put the glove upon it. The thumb of these lasts is made adjustable, so that one may be made to do service for both the right and the left hand. When the glove is stretched on the last and tightly buttoned it may be cleaned with a small sponge dipped in either benzine or naphtha, care being taken to keep away from artificial light or fire during the cleaning process.

A dainty way to prepare radishes for the table is to cut a morsel off the tip of each, leaving at the other end the heart leaves and a bit of the stem. Cut the skin down from the tip in five or six places, bending each piece slightly outward to stimulate the petals. If this is carefully done, the radish takes the appearance of a half-opened flower. Of course, the radishes with the red skins give the prettiest color effect, though the new yellow ones are not without beauty.

Don't use tea leaves to clean a delicate carpet. They will be sure to stain it. Damp bran or newspapers dampened and torn will answer the purpose. Sweep the way of the nap of the carpet. Never shake rugs from the end; too much weight comes on them, and they are liable to be torn or stained; shake them from the sides. Turn them face downward to be swept, or the dust will be ground into them. Salt used on a carpet collects dampness and rusts the tacks.

To fold a man's coat lay it out perfectly flat with the wrong side down; the sleeve should be spread out smoothly and then folded back to the elbow until each end of the sleeve is even with the collar. Fold the revers back and then double the coat over, folding it directly in the center seam and smoothing it out carefully so that there may be no wrinkles. The coat is then ready to place in the trunk or on the closet shelf. Unless space is limited do not turn up the tails when folding a coat.

Try a mixture of benzine and powdered borax to remove iron rust from white cloth; for mildew, an application of powdered chalk and borax. All fruit, tea and coffee stains are more easily removed by dissolving a little borax in the boiling water that is poured through them. When upholstered furniture is infested with moths, sprinkle it with powdered borax, dusting it well into the crevices. To clean woodwork, add a tablespoonful to a pint of hot water and use a flannel cloth. A nice lather for cleaning woolens is made by adding about a tablespoonful of the powder to a gallon of water.

Persons suffering from diabetic troubles often find difficulty in getting the pure gluten bread at the baker's. It can, however, be readily made at home, with the assurance that neither milk which contains sugar or milk itself enters into its composition. In the winter the sponge can be set at night, but in the summer it is advisable to set in the morning and make later in the day. Dissolve half a cake of compressed yeast in half a cupful of lukewarm water, with a teaspoonful of salt, a tablespoonful of butter and flour to make a stiff batter. When light, add only sufficient gluten flour to mold the loaves, as it should be as soft as it can possibly be handled. Put in greased pans, let it raise again until light, and bake in a moderate oven three-quarters of an hour.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 5, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	July.	Sept.
Wednesday	72⅝@73	74⅛@74⅞
Thursday	73 @72⅝	74¾@74½
Friday	72⅝@72	74½@73⅞
Saturday	72⅝@74	74¾@75½
Monday	*——@——	——@——
Tuesday	*——@——	——@——

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	July.	Sept.
Wednesday	5s 9½d	6s 0 d
Thursday	5s 9 d	5s 11½d
Friday	5s 8¾d	5s 11⅝d
Saturday	5s 8¾d	6s 0 d
Monday	-s —d	-s —d
Tuesday	-s —d	-s —d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 18⅛@1 17⅞	——@——
Friday	1 17⅞@1 18	——@——
Saturday	1 18⅞@1 19⅜	——@——
Monday	*——@——	——@——
Tuesday	*——@——	——@——
Wednesday	1 19¼@1 18¼	——@——

*Holidays.

Wheat.

There has been little opportunity for business since last review, owing to observances attendant upon the Fourth of July, but the general tone of the wheat market showed improvement in Eastern and foreign centers as well as here. Values in the speculative market were at a slightly higher range than previous week. The most encouraging feature locally is the prospect of a renewal of export trade in something like wholesale fashion in the not very distant future. There are now seventeen ships chartered for the grain trade and all but four of them will likely carry full wheat cargoes. This is a larger list of engaged tonnage than was on hand any time the past season, or since the early part of March, 1898.

Shipments of wheat from this port during the past cereal year were as follows per month:

Month.	Cargoes.	Centals.	Value.
June	6	460,223	$525,867
May	3	197,904	223,830
April	1	69,990	79,525
March	1	57,912	68,905
February	4	243 383	284,096
January	6	268,048	330,124
December	5	270,522	323,474
November	4	199,620	250,102
October	2	14,216	17,424
September	4	79,194	96,074
August	7	283,909	351,179
July	2	141,740	208,394
Totals	15	2,286,760	$2,758,994

During the past ten cereal years wheat exports were:

Season.	Centals.	Value.
1898-99	2,286,760	$ 2,758,994
1897-98	10,112,641	15,261,951
1896-97	10,101,592	13,042,688
1895-96	10,293,957	10,620,629
1894-95	9,605,296	8,607,135
1893-94	8,966,268	9,449,612
1892-93	10,553,619	13,825,632
1891-92	13,092,364	22,089,728
1890-91	13,828,701	20,009,223
1889-90	13,704,333	17,986,701

Of the 3,211,440 centals wheat received the past season, 987,493 centals were from Oregon and Washington, against 1,212,189 centals in previous season. Included in the total receipts of flour—1,427,095 barrels—there were received from Oregon and Washington 411,583 barrels, against 367,346 barrels in previous season. Total receipts the previous cereal year were 10,431,937 centals wheat and 1,323,763 barrels flour. Total shipments of wheat and its equivalent in flour from this State for past year aggregate 256,271 short tons, with a valuation of $5,734,205. Vessels to the number of 45 were dispatched with wheat constituting the entire or main cargo. Total shipments of wheat and flour reduced to wheat the previous season were 629,057 tons, valued at $18,965,086. Vessels to the number of 174 were dispatched in the wheat fleet of 1897-98.

California Milling	$1 12½@1 17½
Cal. No. 1 shipping, alongside	1 10 @1 12½
Oregon Valley	1 07½@1 12½
Walla Walla Blue Stem	1 10 @1 15
Walla Walla Club	1 05 @1 12½
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.17¾@1.19⅜.

May, 1900, delivery, $——@——.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.19¼@1,18¼; May, 1900, ——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1897-98.	1898-99.
Liv. quotations	7s3½d@7s4d	6s3d@6s4½d
Freight rates	24½@27½s	30@32½s
Local market	$1.25@1.30	$1.10@1.12½

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

LOCAL STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on June 1st and July 1st:

Tons—	June 1st.	July 1st.
Wheat	71,501	*66,918
Barley	3,554	†6,252
Oats	566	400
Corn	163	535

*Including 49,998 tons at Port Costa, and 14,455 tons at Stockton.

†Including 4107 tons at Port Costa, 1098 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show a decrease of 4583 tons for month of June. A year ago there were 43,341 tons wheat in Call Board warehouses.

Flour.

Gauged alone by the condition of the wheat market, there should be a little better tone to flour, but as a matter of fact, sellers have not been able to dispose of this commodity to any better advantage than for months past. There are fairly liberal spot supplies, largely the product of mills outside this State.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

The market for this cereal has developed considerable improvement since last review, to the surprise of many, and to the grief of those who were speculating on the short side. The existing condition, or the recovery of values from the recent depression, was predicted in these columns weeks ago as likely to be experienced. There was nothing then to indicate, however, that there would be such a brisk export demand so early in the season as has already set in. There are three ships now known to be listed for barley loading, and some of the other vessels at present on the engaged list will likely take more or less barley. Shippers have been endeavoring to purchase heavily in the interior, hoping to be able to thus operate to better advantage than in this center. Some growers were caught napping, as is generally the case when prices recover sharply under a brisk foreign demand. Now that there is every prospect of a good export trade, it will be well for producers to try to avoid the other extreme of exacting higher figures than foreign consumers will pay. There is certainly more barley this season than will be required for home use, and only by encouraging outside demand can there be a healthy market.

Feed, No. 1 to choice	95 @ 97½
Feed, fair to good	92½@ 95
Brewing, No. 1 to choice, new	1 00 @1 05
Chevalier, No. 1 to choice	— @ —
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 86⅛@91¼c.

December, 1899, delivery, 88⅛@93⅞c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 92⅜@90½c; seller 1899, new, 90@88¼c.

Oats.

Market the past week has been very lightly stocked, largely due to a temporary blockade in rail transportation from the principal supply points in the Northern section of the coast. Some dealers had great difficulty in securing all they needed for the time being, especially those who had contracts with the Government. Under pressing needs, higher prices were realized in some instances than were quotable in a regular way. Increased supplies and an easier market are almost certain to be experienced in the near future, as new crop in large quantities will soon be ready for market, and only by the acceptance of moderately low prices will it be possible to establish a wholesale movement.

White Oats, fancy feed	1 40 @1 45
White, good to choice	1 32½@1 37½
White, poor to fair	1 25 @1 30
Gray, common to choice	1 30 @1 37½
Milling	1 32½@1 37½
Surprise, good to choice	1 40 @1 45
Black Russian	1 25 @1 30
Red	1 20 @1 30

Corn.

There is more Eastern corn offering than immediate custom can be found for, except at lower rates than holders are willing to take. Stocks of imported include both Large Yellow and Large White, but are principally the former description. While the market lacks firmness, holders are not inclined to press offerings to sale where such pressure involves the making of radical concessions to buyers. Stocks of domestic product are very light, which accounts for the abnormally high prices still current on Small Yellow.

Large White, good to choice	1 12½@1 17½
Large Yellow	1 10 @1 12½
Small Yellow	1 40 @1 45
Eastern Mixed	1 07½@1 10

Rye.

New is beginning to come forward, and some operators are trying to depress values under the figures lately current for old, evidently with a view of buying. On the other hand, heavy handlers of this cereal state that new is worth just as much as old.

Good to choice, new	1 00 @1 02½

Buckwheat.

Same inactivity as previously noted. Supplies are mainly Eastern product in the hands of local millers.

Good to choice	2 25 @2 50
Silverskin	— @ —

Beans.

The bean market has not been noteworthy for activity since last review, but such business as was transacted showed values to be in the main well sustained at the range quoted. Stocks and offerings, as for some time past, are composed largely of Lady Washingtons, Bayos and Pinks, and these as a rule are held with confidence, especially good to choice qualities, the little selling pressure manifested being confined almost wholly to defective lots. The acreage this season is comparatively light, not only in the southern part of the State, but also on the Sacramento river, much of the land ordinarily given to beans in the latter district having been this year used for hay. Market for Lima beans has been inclining slightly downward, not on account of large offerings, but owing to very light demand at present for this variety.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 05 @2 15
Lady Washington	1 50 @1 65
Butter, small	—— @——
Butter, large	—— @——
Pinks	1 85 @1 95
Bayos, good to choice	1 65 @1 75
Reds	3 35 @3 40
Red Kidneys	2 50 @2 75
Limas, good to choice	3 90 @4 00
Black-eye Beans	4 10 @——
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Advices by recent mail from New York City give the following review of the bean market, prices quoted being per 60-lb. bushel:

There has been a little recovery in the market for Marrow beans. Receipts have been very light, advices indicated comparatively small shipments in transit and sellers offered stock with a good deal of reserve. The home demand has given so little support that receivers did not feel warranted in ordering the stock down town until there were orders in hand for at least part of each car. The railroads do not permit goods to remain on the docks longer than four days, and this frequently necessitates storing part of the stock or selling it at a sacrifice. For this reason there were times when goods ready for immediate delivery were scarce, though plenty of them were across the river. Early jobbing sales were at $1.42½, then at $1.45, and later a few brought $1.47½. Exporters came in on Thursday for 600 or 700 barrels, and most of their orders were filled at $1.45. These gave added strength to the position and at the close $1.47½ is as low as strictly choice lots can be bought. Medium are also a little firmer, but no business as yet above $1.30. The demand for Pea has been light but offerings have been equally light and prices have advanced to $1.30 for best stock. Export orders for Red Kidney have been quite moderate and the price has settled to $1.70, at which it is now easy to buy. White Kidney firm owing to short supplies. Yellow Eye dragging and weak. Turtle Soup steady but dull. Lima held firmer but not much business as yet at the advance; quotable $2.55@2.60. Green peas steady.

Dried Peas.

Stocks are too insignificant to admit of any noteworthy trading. Values remain nominally as last quoted.

Green Peas, California	2 30 @2 40
Niles Peas	2 00 @2 10

Wool.

The market is showing less activity than for some weeks past for two substantial reasons, first and most prominent being the fact that from 80 to 90 per cent of the wool of the entire coast has been already placed, this of itself necessitating a more quiet market than has been lately experienced. The second reason for the less active state of affairs now prevailing is that nearly all the wools unplaced are held above current rates and at higher figures than either dealers or manufacturers can at present see their way clear to pay. Not much activity is looked for until fall clip begins to come forward, and then trade may not be as brisk as anticipated, as the fall shearing will likely be held relatively higher than was the spring clip, while it is seldom in as good favor with buyers. Foreign markets continue firm, but will not admit of taking domestic wool at the advances recently established.

SPRING.

Humboldt and Mendocino	15 @18
Northern Sacramento Valley, free	12 @14
Northern Sacramento Valley, defective	9 @11
San Joaquin foothill, free	10 @12½
San Joaquin foothill, defective	8 @10
San Joaquin plains and southern, 7 mos.	—@—
San Joaquin plains and southern, 12 mos.	7 @10
Nevada, as to condition	10 @14
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17½

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	—@—
Plains, defective	—@—

Hops.

Very little doing in this article at present, either for shipment or on local account. Outside of small supplies in the hands of jobbers, there is practically nothing left of the crop of 1898 to operate upon. Prospects are favorable for fairly profitable figures being realized on desirable qualities of coming yield. The market for 1899 hops is expected to open at about 13@15c for good to choice Pacific coast stock. This will be a decided improvement over some previous seasons of the quite recent past. If growers could be assured of never having to accept less for their product, they would have good reason to congratulate themselves on having their lines cast in comparatively pleasant places. As to what firmness will be developed here and how long it will continue, will depend greatly on how the crop matures in the East and in Europe, or on the quantity and quality of this commodity harvested the present season off the Pacific coast.

Good to choice, 1898 crop	14 @17½

The following review of the hop market is published under late date by a New York authority:

The market shows no quotable change since our last report. Business has moved along quietly, but there has been something doing every day and stocks are being reduced steadily. This naturally gives holders some confidence in the stability of present values and there is an unwillingness to part with stock that has any merit except at full late prices. In some quarters there is a disposition to hold certain favorite lots a little higher, but no sales have resulted which seem to warrant any revision of former quotations. Further small shipments have gone to England again this week, bringing the total exports for the season up to 105,213 bales, some 10,000 bales ahead of the highest previous record. Brewers are still buying only as their needs require but they are using a good many hops. The government report of the sales of stamps for the month of May indicates that the consumption of beer in the United States was 500,000 hhls. more than for the same month last year. Country markets are firmer with buyers showing more interest. Reports as to the condition of the yards in this State are less favorable. The drouth is interfering with the growing vines and they are not looking nearly as well as they did two weeks ago. Old yards are feeling the effects of the dry weather more than the young yards. We hear some complaints of lice in Oregon.

Hay and Straw.

Not much hay has arrived since last report, neither has there been any active inquiry, the Fourth of July week being invariably a quiet time in the hay trade, as dealers endeavor to have as little as possible on hand during the fire-cracker period. Values were without appreciable change, but the market was naturally weak in tone, especially for common qualities or for hay which was not thoroughly cured. In a week or two there will probably be an improved demand for qualities suitable for storing, with possibility of a slightly firmer market. Straw has been arriving very sparingly for several weeks past, but the demand has proven equally as light as the supply.

NEW.

Wheat, fair to choice	8 00@10 00
Oat	7 00@ 8 50
Alfalfa	5 00@ 7 50

OLD.

Wheat	8 00@10 50
Wheat and Oat	7 00@ 9 50
Oat	7 00@ 8 00
Barley, River	——@——
Timothy	——@——
Compressed	8 00@11 00
Straw, ₱ bale	25@ 40

Millstuffs.

Tendency of prices for Bran and Middlings has continued favorable to buyers, but in quotable rates there has been no radical change. Rolled Barley is being more firmly held, owing to higher prices ruling for the raw product. Milled Corn is ruling about as last quoted.

Bran, ₱ ton	15 50@16 50
Middlings	17 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	21 00@21 50
Cornmeal	24 00@ ——
Cracked Corn	25 00@ ——

Seeds.

There is virtually no business in this department, there being scarcely anything offering, and values in consequence are for the time being poorly defined. Some Flaxseed is arriving from the North, representing purchases made early in the season.

	Per ctl.
Mustard, Trieste	3 50@——
Mustard, Yellow	2 50@3 00
Flax	——@——
	Per lb.
Canary	2½@3
Rape	3 @3½
Hemp	4¼@4½
Alfalfa, Utah	8½@9½

Bags and Bagging.

A very fair demand is being experienced for Grain Bags, better than many anticipated earlier in the season, the wheat yield exceeding expectations in many sections. The market in consequence has been showing firmness. Strength was further increased by some overdue shipments from Calcutta failing to arrive. The bag market in other lines showed nothing of special note.

Calcutta Grain Bags, buyer July	5½@—
San Francisco Grain bags, 22x36, spot	5½@ 5⅝
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4¼@ 4¾
Fruit sacks, cotton	5¼@ 6

Hides, Pelts and Tallow.

The Hide market is firm at ruling rates, with only moderate supplies, and demand good. Pelts are commanding tolerably steady figures, and nothing to indicate that values will recede materially in the near future. Tallow of good quality is not lacking for custom, there being a demand for all offering at current rates.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	—@10	—@ 9
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	—@ 9	—@ 8
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

Nothing of consequence has developed in this line since former review. Offerings continue light of new crop, and stocks of old were virtually exhausted before the current season opened. Business is necessarily of a light jobbing order and within same range of values last quoted.

Extracted, White Liquid	7½@ 7½
Extracted, Light Amber	6½@ 7
White Comb, 1-₱ frames	10 @10½
Amber Comb	7½@ 9

Beeswax.

Values remain quotably in same position as for some time past, with little offering, and no prospect of the market developing any weakness for some time to come.

Good to choice, light, ₱ lb	26½@27
Dark	25 @26

Live Stock and Meats.

Market for Beef has ruled quiet since last review, but prices were fully up to the aver-

age of several weeks preceding. Small Veal was in very light receipt, and market for same was quite firm. Mutton was in light supply, barely sufficient to accommodate the existing demand. Hogs were in fair request. and market for desirable packing stock was firm at unchanged values.

Beef, 1st quality, dressed, net ℔ lb	8	@—
Beef, 2d quality	7	@ 8
Beef, 3d quality	6	@ 7
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain fed, medium	5⅝	@ 5¾
Hogs, small, fat	5⅛	@ 5¼
Hogs, large hard	5⅛	@ 5¼
Hogs, acorn-fed	—	@—
Hogs, feeders	4¾	@ 5
Hogs, country dressed	5¾	@ 6
Veal, small, ℔ lb	9	@10
Veal, large, ℔ lb	8	@ 9
Lamb, spring, ℔ lb	7½	@ 8

Poultry.

Stocks of both domestic and Eastern were pretty well cleaned up prior to this week's arrivals, and in consequence the market for fresh receipts was in slightly better shape for selling interest than at date of last review. Choice fat young chickens and desirable qualities of old, large and fat, received the preference. Old Ducks and Turkeys were in poor request most of the week.

Turkeys, dressed, ℔ lb	—	@	—
Turkeys, live hens, ℔ lb	11	@	13
Turkeys, live gobblers	11	@	13
Hens, Cal., ℔ doz	4 50	@5	50
Roosters, old	5 00	@5	25
Roosters, young, (full-grown)	6 00	@7	00
Fryers	4 50	@5	00
Broilers, large	3 50	@4	00
Broilers, small	2 50	@3	00
Ducks, ℔ doz	3 50	@5	00
Geese, ℔ pair	1 12½	@1	25
Goslings, ℔ pair	1 12½	@1	25
Pigeons, Old, ℔ doz	1 25	@1	50
Pigeons, Young	1 50	@1	75

Butter.

Strictly choice to select fresh was favored with a moderately firm market, stocks of this description not being heavy, nor are they likely to prove so during the balance of the season. Medium grades were in liberal supply, however, as compared with the demand, and for this sort the market was weak. Some Eastern butter is arriving, mostly cheap grades, as the best Eastern is not low enough to be landed here to advantage.

Creamery extras, ℔ lb	19	@—
Creamery firsts	18	@—
Creamery seconds	17½	@—
Dairy select	17½	@—
Dairy seconds	15	@16
Dairy, soft and weedy	—	@—
Mixed store	13	@14
Creamery in tubs	18	@20
Pickled Roll	18	@20
Firkin, Cal., choice to select	18	@20
Firkin, common to fair	15	@16

Cheese.

For full cream cheese, sufficiently seasoned to be desirable, values are being fairly well maintained at last quoted range, with little or no probability of prices ruling any lower in the near future. For cheese which is too green, or which shows defects in making, or which is the product of skimmed milk, the market is dull and weak.

California fancy flat, new	8½	@—
California, good to choice	7½	@ 8
California, fair to good	7	@ 7½
California Cheddar	—	@—
California, "Young Amerioas"	8	@ 9½

Eggs.

Trade has been slow in the egg market, with no appreciable change in quotable rates, but firmness was lacking, except in a small way for extra select, which went to special custom at slightly higher rates than were warranted as regular quotations. The market is burdened with what are termed warm weather eggs, both domestic and Eastern. No noteworthy revival in the demand is looked for before the latter part of the month.

California, select, large white and fresh	19	@—
California, select, irregular color & size	16½	@18
California, good to choice store	15	@16½
Eastern, as to section and grading	14	@17½
Eastern, cold storage	—	@—

Vegetables.

Spring and early Summer vegetables, such as Green Peas, Asparagus and Rhubarb, were in very light supply and hardly quotable. Later varieties, such as Squash, Corn, Tomatoes, Egg Plant, etc., showed increased receipt, with the market in the main in favor of buyers. Onions of the Yellow Danver variety were in ample supply for current requirements. Red Onions have about had their day for the current season.

Asparagus, fancy, ℔ box	2 25	@	—
Asparagus, No. 1, ℔ box	1 50	@	2 00
Asparagus, common to fair, ℔ box	50	@	75
Beans, Wax, ℔ lb	3	@	5
Beans, Vacaville, String, ℔ lb	3	@	5
Beans, Los Angeles, String, ℔ lb	—	@	—
Cabbage, choice garden, ℔ 100	1 15	@	1 30
Cauliflower, ℔ doz	50	@	—
Corn, Alameda, ℔ crate	1 50	@	2 00
Corn, Green, ℔ doz	10	@	15
Corn, Green, ℔ sack	75	@	1 50
Cucumbers, Alameda, ℔ large box	75	@	1 00
Cucumbers, ℔ small box	25	@	40
Egg Plant, ℔ lb	5	@	7
Garlic, new, ℔ lb	2	@	3
Mushrooms, Buttons, ℔ lb	—	@	—
Mushrooms, wild, ℔ box	—	@	—
Onions, Yellow, good to choice, cental	75	@	85
Onions, New Red, ℔ cental	35	@	45
Peas, Sweet, Garden, ℔ lb	3	@	4
Peas, common, ℔ lb	1½	@	2½
Peppers, Green Chile, ℔ lb	8	@	10
Rhubarb, ℔ box	—	@	—
Squash, Bay, ℔ large box	40	@	50
Squash, Marrowfat, ℔ ton	—	@	—
Squash, Summer, ℔ small box	20	@	25
Tomatoes, Bay, ℔ large box	2 00	@	2 50
Tomatoes, ℔ small box	50	@	75

Potatoes.

The potato market was not particularly strong at the ruling figures, but arrivals were not what could be termed heavy for this time of year, and with very good custom, considering the prices prevailing, there were no serious accumulations of supplies. The shipping demand was relatively better than the inquiry on local account.

Burbanks, River, ℔ cental	—	@	—
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	—	@	—
New Early Rose	1 75	@2	00
Garnet Chile	1 75	@1	90
New Burbanks, ℔ cental	1 75	@2	10
Sweet River, ℔ cental	—	@	—
Sweet Merced	—	@	—

The Fruit Market.

Fresh Fruits.

While in the fresh fruit line there were tolerably heavy stocks of most kinds now in season, it was the exception where there were excessive supplies of choice to select of any variety. Apricots were in fair receipt, but a large proportion of offerings was either too ripe or too small to be specially sought after. Such as came up to the A1 standard in every respect readily commanded full current rates, or $45@50 per ton. Apples of common quality were plentiful enough, and cheap enough for the average consumer, but when a thoroughly choice apple was looked for, such as select Gravenstein, buyers were not readily accommodated. For the latter sort the market was firm and is not likely to soon develop much weakness. Peaches made the most liberal display, Plums coming next on the list. Peaches were mainly common early sorts, not suitable for canning and not desirable for shipment any great distance, consequently it was natural that low prices should rule for common qualities. Choice sold fairly well. Plums and Prunes sold at rather low figures for the common run of offerings, such being in liberal stock, but some select varieties and superior qualities brought an advance on quotable rates. Grapes were on market, some Fontainebleaus from Vacaville section and a few Black from Arizona. They brought the customary good figures for first consignments. Cantaloupes were in evidence from Bakersfield, and there were also some Nutmeg Melons, both selling to advantage.

Apricots, choice Royal, ℔ ton	40 00	@50	00
Apricots, Royal, ℔ box	50	@	75
Apricots, Pringle, ℔ box	—	@	—
Apples, fancy, ℔ 50-lb. box	—	@	—
Apples, good to choice, ℔ 50-lb. box	75	@ 1	00
Apples, Green, common to fair, ℔ 50-lb. box	30	@	50
Blackberries, ℔ chest	3 50	@ 4	50
Cantaloupes, ℔ doz	1 50	@ 2	50
Cantaloupes, Nutmeg, ℔ box	1 00	@ 1	50
Cherries, Black, ℔ box	—	@	—
Cherries, Red, ℔ box	—	@	—
Cherries, Royal Anne, ℔ box	75	@	90
Cherries, White, ℔ box	—	@	—
Crabapples, ℔ small box	35	@	50
Currants, ℔ chest	4 50	@ 6	00
Figs, as to quality, ℔ box	30	@	75
Gooseberries, ℔ lb	—	@	—
Gooseberries, ℔ 10-lb box	—	@	—
Grapes, Black, ℔ box	1 00	@ 1	25
Grapes, Fontainebleau, ℔ box	75	@	—
Grapes, Seedless, ℔ crate	1 25	@	—
Logan Berries, ℔ chest	6 00	@ 7	00
Peaches, fancy wrapped, ℔ box	60	@	75
Peaches, ℔ box	35	@	60
Pears, No. 1 Bartlett, ℔ 60-lb. box	1 50	@1	75
Pears, common, ℔ basket	25	@	40
Pears, ordinary, ℔ box	25	@	60
Plums, large, ℔ crate	65	@	75
Plums, ℔ box	25	@	50
Plums, Tragedy, ℔ crate	60	@	75
Plums, Cherry, ℔ drawer	—	@	—
Raspberries, ℔ crate	—	@	—
Raspberries, ℔ chest	4 00	@ 6	00
Strawberries, Longworth, ℔ chest	5 00	@ 6	00
Strawberries, Large, ℔ chest	3 00	@ 4	00

Dried Fruits.

In the line of fruits of this season's curing, only Apricots and Apples have thus far appeared on market, and only small quantities of either sort. Apricots are not arriving as freely as was anticipated, nor is the quality showing good average. Market is a little easier than last month, but is far from being favorable to buyers, and there is no likelihood of desirable stock having to go begging for custom this season. It is probable that shippers will take all the choice they can secure at 9c f. o. h. at any common shipping point. Apples have sold in a small way at good prices, evaporated of only fair quality selling at 9½@10c. Some common Red Astrachan sun-dried in sacks went at 6c. Apples hid fair to be plentiful and to sell at tolerably low figures later on. For delivery the coming month evaporated in boxes are now quoted down to 7½c. Peaches will not be here in quotable quantity before the latter part of the month. The market is expected to open at 7@8c for prime to choice, with talk of values running about a cent less later on. Pears will undoubtedly make a poor showing in the dried state this season and choice will rule high. Plums will be apt to be in sufficient supply for all ordinary requirements, and the same may be made of Figs. There is nothing very definite concerning the Prune crop, but it will likely prove of fair proportions, with the fruit averaging larger than last season. Last year's Prunes are offering at unchanged rates and are receiving very little attention.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	9	@10	
Apricots, Royal, fancy	—	@—	
Apricots, Moorpark	—	@—	
Apples, in 50-lb. boxes, rings, pressed, fancy	—	@—	
Apples, 50-lb. boxes, rings, pressed, fair to good	8	@10	
Figs, White, fancy pressed	—	@—	
Peaches, unpeeled, choice	—	@—	
Peaches, unpeeled, fancy	—	@—	
Peaches, peeled, in boxes	—	@—	
Pears, unpeeled Bartletts, halved, fancy	—	@—	
Pears, halved, unpeeled Bartletts	—	@—	
Pears, quartered, unpeeled Bartletts	—	@—	
Plums, pitted	—	@—	
Prunes, in sacks, 40—50's	7	@—	
50—60's	4¾	@ 5	
60—70's	3¾	@ 4	
70—80's	3	@ 3¼	
80—90's	2¾	@ 3	
90—100's	2¼	@ 2¾	
110—130's	2	@ 2¼	
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	3¼	@—	
4 sizes San Joaquin and Northern	3	@—	
Prunes, Silver	4	@ 7	

COMMON SUN-DRIED.

Apples, sliced	4	@ 6
Apples, quartered	4	@ 6

NITRATE IS OF PRIME VALUE IN THE GROWTH OF

NITRATE OF SODA AS A FERTILIZER.

Citrus Fruits, Wheat, Sugar Beets, Deciduous Fruits, Cereals, Garden Vegetables, Etc., Etc.

EXPERT OPINION—Dr. Bernard Dyer (Consulting Chemist of Various British Agricultural Societies), writes:

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For Sale by BALFOUR, GUTHRIE & CO., 316 California St., San Francisco.

Write to them for pamphlets on Nitrate of Soda as a Fertilizer.

Figs, Black	—	@—
Figs, White	—	@—
Peaches, unpeeled	—	@—
Plums, unpitted	—	@—

Recent mail advices from New York City give the following review of the dried market in that center:

The market for evaporated apples continues very quiet; small jobbing sales are reported at about former range of prices, but there is no outlet for export, and Canadian fruit in bond is offered freely at 7¾c for prime without attracting buyers. Some few sales in futures reported on the basis of 7@7¼c for prime wood-dried, November and December delivery, and 7¼c for October delivery. Crop reports are very conflicting, but it is thought a very good crop of apples will be had throughout the west and south, though in New York and the New England States the crop will probably be short. Nothing doing in sun-dried apples. Crop quiet and while choice hold steady wet or poor fruit is neglected and low. Several cars of cores and skins have been sold recently at 1¼@1¾c; very defective stock would have to go lower. Raspberries quiet but held very firmly owing to unfavorable crop reports Huckleberries dull. Blackberries firm. Cherries weak with 10c extreme. Not many California apricots left and peaches also pretty well cleaned up with values nominal. California prunes in better demand, more expecially the small sizes, though prices without change.

Apricots, Cal. Moorpark, 1898, per lb	14	@16
Apricots, Cal. Royal, 1898, per lb	13	@14½
Peaches, Cal., 1898, unpeeled, per lb	9	@12
Prunes, Cal., 1898, per lb	3	@ 8½

Raisins.

There are no indications of any wholesale business and not much doing in a jobbing way. Asking figures are unchanged, and supplies of medium grades of loose Muscatel are sufficient to accommodate considerable custom. Supplies unplaced are estimated at from 400 to 500 cars.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—	@—
Dehesa Clusters, per box	—	@—
Fancy Clusters, per box	—	@—
London layers, 3-crown, 20-lb box	—	@1 20
London layers, 2-crown, 20-lb box	—	@1 10
Valencia layers, ℔ 20-lb box	80	@1 00
(Usual advance for fractions.)		
Loose Muscatel, 4-crown, ℔ lb	5¼	@5¾
Loose Muscatel, 3-crown	4¼	@4¾
Loose Muscatel, 2-crown	3¼	@3¾
Loose Muscatel, ungraded	—	@4
Sultanas, unbleached	—	@4½
Seedless Muscatel	—	@3¾
Thompson's Seedless, unbleached	—	@6
(Above prices for loose raisins are for 50-lb boxes.)		
Dried Grapes	2½	@2¾

Citrus Fruits.

Oranges are nearly a hack number for this season. There are few now here and few wanted, with market weak. Lemons are in fairly liberal supply. Good to choice are in moderately fair demand at full current rates. Common qualities drag at low prices. Limas are being offered at same values last quoted.

Oranges—Navels, ℔ box	—	@—	
Mediterranean Sweets	1 00	@ 1	50
Seedlings	1 00	@ 1	25
Japanese Mandarins	—	@—	
Grape Fruit, ℔ box	—	@—	
Lemons—Cal., select, ℔ box	3 00	@—	
Cal., good to choice	2 00	@ 2	50
Cal., common to good	1 00	@ 2	00
Limes—Mexican, ℔ box	4 00	@ 5	00
Cal., small box	75	@ 1	00

Nuts.

Values are wholly nominal for Almonds and Walnuts, with no spot stocks and nothing doing in futures. Peanut market is firm for choice at the figures quoted.

California Almonds, paper shell, ℔ lb	15	@16
California Almonds, soft shell	12	@14
California Almonds, hard shell	7	@ 9
California Almonds, shelled	24	@27½
Walnuts White, paper shell	12	@13
Walnuts White, soft shell	12	@13
Walnuts White, Cal., standard	9	@10
Chestnuts, Cal. Italian	6	@ 7
Peanuts, Cal., fair to prime	5	@ 5½
Peanuts, Eastern hand-picked	6	@ 7
Pine Nuts	6	@ 8

Wine.

No new features have been developed in the wine trade since last review. There is little doing at present in a wholesale way, but where transfers are effected they are at generally unchanged figures. New Claret remains quotable in round lots at 16@20c per gallon, San Francisco delivery. In a jobbing way higher figures are exacted and realized, with a wide range of values to cover the exceedingly varied conditions under which wine is sold in small quantities. Shipments outward by sea and rail continue of fair volume.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '98.	Same Time Last Year.
Flour, ¼-sks	74,996	5,692,761	5,295,051
Wheat, ctls	6,210	3,209,325	10,431,937
Barley, ctls	29,320	1,397,839	4,581,907
Oats, ctls	1,860	637,339	699,575
Corn, ctls	4,375	194,767	396,668
Rye, ctls	1,760	37,275	51,661
Beans, sks	6,994	417,728	573,548
Potatoes, sks	15,913	1,141,224	1,166,718
Onions, sks	5,383	200,778	129,382
Hay, tons	1,926	135,565	127,116
Wool, bales	2,547	81,245	77,505
Hops, bales	....	11,706	9,351

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '98.	Same Time Last Year.
Flour, ¼-sks	26,416	3,783,598	3,291,332
Wheat, ctls	116	2,286,449	9,834,241
Barley, ctls	4,632	429,647	3,025,624
Oats, ctls	151	23,025	23,837
Corn, ctls	228	24,796	48,580
Beans, sks	105	86,340	171,552
Hay, bales	2,796	84,315	83,770
Wool, lbs	....	1,792,407	684,276
Hops, lbs	1,095	1,338,890	862,697
Honey, cases	6	5,580	5,537
Potatoes, pkgs	855	53,213	78,951

California Dried Fruit at New York.

NEW YORK, July 5.—California dried fruits: Market quiet but steady. Evaporated apples, common, 6½@7c; prime wire tray, 8¼ 8½c; choice, 8½@8¾c; fancy, 9@9½c.

Prunes, 3¼@8¼c.

Apricots, Royal, 14@16c; Moorpark, 16@18c.

Peaches, unpeeled, 10@13c; peeled, 25@28c.

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Consisting of 107 acres in four fields; 80 acres farming land, part level and part rolling, suitable for grain, beans, potatoes, etc.—some damp land will grow alfalfa or rye grass; 10 acres in orchard and trees, variety of fruits and nuts; 15 acres hill pasture; good 7-room house; large barn, granary and sheds; windmill and tank water piped to house and yard; wood shed, apple house, hen house, etc.; cool, soft water; stream of water running through ranch; plenty of wood; good climate; in rainy belt where crops are never a total failure; four miles from county seat, with two lines of railroad; ten miles from Port Harford; one mile from school. Price $7500, on easy terms. Address BOX 289, San Luis Obispo, Cal.

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An Electrical Display.

The electric features of the Greater America Exposition to be held in Omaha, Neb., from July 1st to November 1st, '99, promise to maintain the high standard previously set for night illumination. Those who last year witnessed the nightly decorative lighting accomplished in the Grand Court of the Transmississippi Exposition, and even those who had vividly in memory the results attained at the World's Fair at Chicago, were pleased to acknowledge its merit. It is not intended that the results are to be attained by simply increasing the quantity of light, though a fair increase has made it possible to develop advantageously some points prohibited last year, but it is intended to bring out the many sculptured details in clear relief, with a strong effect, much as the star actress in an opera is emphasized by the calcium. Work has been progressing in the electric department rapidly, under the superintendency of Henry Rustin. To realize how much has been done, it must be understood that the wiring and plant of the Transmississippi Exposition were entirely dismantled and put in store.

All the wires and lamp receptacles on the buildings in and around the Grand Court are in place and ready to be lighted up for a test. No ordinary obstacle could intervene to prevent the lighting this year being all that is hoped for. The illustrations shown herewith give an idea of the scene in the "Grand Court of Honor," where 45,000 lights will flash and gleam, and where the electric fountain will play in a radiance of rainbow tints. On the bluff tract and the Midway the lighting will be fine; a race track is being arranged and preparations made for lighting it so that races may be run at night. This will be one of the many new and novel features of the Greater America Colonial Exposition.



ELECTRICAL DISPLAY AT OMAHA, NEB.



ELECTRICAL FEATURE OF THE OMAHA "GREATER AMERICA" EXPOSITION.

The Queen's Fruit.

Most of the fruit consumed in Queen Victoria's household is grown in the royal gardens at Windsor. Some statistics published not long since show that the gardens supply in one year no fewer than 20,000 dessert apples, besides 400 bushels of eating apples of a commoner kind. The grapes produced in one season weigh two tons and a half, the strawberries a ton and a quarter, red and white currants a ton, and the cherries half a ton.

"When I was alone with Miss Smith in the parlor I proposed. I told her she was the light of my life."

"And she?"

"Oh, she went out."

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TRIUMPH STEEL RANGE into every section of the United States, we will for a short time deliver at your depot free of charge our highest grade Steel range for $25.00. The regular retail price is $50.00. It has six 8-inch lids. Top cooking surface is 30x34 inches. Oven 12 inches high, 17 inches wide and 21½ inches deep, and 15-gallon reservoir. Weight 400 lbs. Burns wood or coal. Write for Free Descriptive Pamphlet. Best Range made. WM. G. WILLARD, Manufacturer, 619 N. Fourth St., St. Louis, Mo. Will ship C. O. D. with privilege of examination.



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PERRY DAVIS'

Beautifying the Farm.

It seems strange so many farm houses should possess untidy and unattractive surroundings, when by a small outlay of time and trouble the very reverse might be the case. How often the back yard is little better than a heap of filth and rubbish, and both pigs and chickens run at large as they please. How easily the ground might be leveled all around the house and thickly sowed to grass! Almost before one realized it, a beautiful lawn would be there, a delight to the eye and feet alike. A few convenient walks and paths should be laid out. If the lawn is of generous size, as it should be, a few fine shade trees and some choice shrubbery should be planted. One or two trees close enough to the house to have a hammock or chair in the shade conveniently near for the tired housewife, is a rest and delight one can appreciate only in its daily use.

Narrow flower borders outlining the paths or oval beds should be filled with hardy perennials, and as many annuals sown each season as one can find time and space for. Vines should be generously planted about the house; clematis is particularly fine for such purpose trained on a suitable trellis, and is so hardy it needs absolutely no care. The ampelopsis will attach itself to either wood, brick or stone by the disc-like rootlets thrown out along its stem, and will soon cover a bare wall with a beautiful mantle of green.

In the back yard, so often a positive offense to the patient worker in the kitchen, every effort should be made to keep down weeds and to keep the grass as green and smooth as possible. In full view of the kitchen window plant a large bed of nasturtiums; do not enrich the soil, as it can scarcely be too poor or shallow for this beautiful annual to live in. Keep down the weeds and if possible do not allow seeds to form, and from June to October the bed will be a solid sheet of gorgeously beautiful flowers in rich and velvety tints of scarlet, gold and ruby. In new ground nasturtiums will do quite as well as anywhere else.

Plant some hardy climbing roses at the door, and each year try to improve on the past one in the way of permanently beautifying the surroundings. It is amazing how much can be accomplished in a short time. The plainest farm house may be made beautiful by a judicious planting of vines, trees and shrubbery, if first be laid the sure foundation of a beautiful green lawn.

Value of Alfalfa Hay.

The Chemical Department of the Kansas Experiment Station has just completed the analyses upon one of a series of digestion experiments with alfalfa. Conclusions are that 100 pounds of alfalfa hay contains 11.3 pounds more digestible matter than the same amount of red clover hay and one and one-half times as much protein. It contains only 2.3 pounds less of total digestible nutrients than the same amount of millet hay, and almost two and one-half times as much digestible protein as oat hay; three times as much as prairie hay; more than four times as much as sorghum hay; five times as much as corn fodder; six and one-half times as much as oat straw and thirteen times as much as wheat straw.

In feeding value, alfalfa hay not only ranks high above all other feeds used for roughage, but it is well up among the more concentrated feeds. One hundred pounds of it contained 3.3 pounds more of total digestible nutrients than wheat bran, and almost as much protein. It is richer in digestible protein than wheat, corn, oats, rye, barley, Kafir corn or sorghum seed.

Its digestible nutrients have a nutritive ratio of 1 to 4.4. There are only a few feeds, such as wheat bran, linseed meal, cottonseed meal and soy beans that furnish as narrow a nutritive ratio as this. Alfalfa hay, therefore is an ideal feed to use in balanced rations, and is especially valuable to combine with corn as a ration for fattening steers, since it furnishes all the roughage necessary and is also a cheap source of protein. It is an ideal dairy feed, furnishing almost the exact nutritive ratio required for the highest yields of milk. Its value as a feed for hogs has been shown in the results of previous experiments.

District Agricultural Society Appointments.

Governor Gage has made the following appointments of district agricultural directors:

District No. 13, Yuba and Sutter counties.—J. P. Oustatt, J. M. C. Jasper, F. Hauss, E. A. Forbes, W. P. Harkey, D. P. Donohoe, J. Littlejohn, J. C. White.

District No. 14, Santa Cruz county.—F. A. Heber, D. McPherson, W. S. Rodgers, R. C. Kirby, C. Spreckelson, F. Barson, J. H. Logan, D. M. Locke.

District No. 16, San Luis Obispo county.—A. L. Thomas.

District No. 17, Nevada county.—H. Love.

District No. 21, Fresno and Madera counties.—L. A. Blasingame, J. McMullen, J. M. Griffin, J. G. Roberts, W. H. Hodgkins, G. C. Roeding.

District No. 23, Contra Costa county.—E. J. Randall.

District No. 27, Shasta and Trinity counties.—W. Valmars, W. Schrater, M. T. Kite, D. McCarthy, J. H. Vanderhoff, W. W. Fisk, J. Morris, W. Howes.

District No. 28, San Bernardino and Riverside counties.—J. W. Lord, E. F. Kingman, S. Marshall, C. B. Webster, M. A. Murphy, W. Irving, W. A. Hoyt, E. J. Gilbert.

District No. 31, Ventura county.—J. A. Driffel.

District No. 32, Orange county.—E. S. Wallace, G. W. Menter, E. R. Amerigo, M. Forster, D. M. Baker, R. E. Carter, J. Snover, J. E. Pleasants.

District No. 35, Mariposa and Merced counties.—N. S. Stockton, J. B. Obcese, W. O. Moore, E. P. Washburn, E. M. Stoddard, J. P. Wolleson, Charles Harris, H. A. W. Forchian.

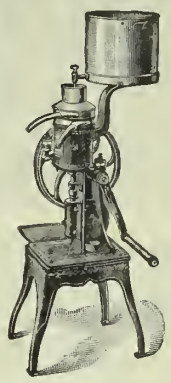
District No. 38, Stanislaus county—A. L. Cressey, J. W. Davison, G. R. Stewart, V. E. Rangs, C. T. Elliott, A. L. Richards, W. E. Kervin, T. C. Hocking.

District No. 40, Yolo county—A. M. Britt, C. F. Burns, C. R. Hoppen, W. S. Allen, J. Reith Jr., A. C. Stevens, Sam Montgomery, Frank H. Owen.

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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING JUNE 20, 1899.

627,451.—BICYCLE SADDLE—M. A. Baker, Los Angeles, Cal.
627,454.—PUMP VALVE—C. S. Booth, Oakland, Cal.
627,321.—BOILER—M. P. Boss, S. F.
627,097.—GAS CUT OFF—V. E. Campbell, Winnemucca, Nev.
622,250.—ARTESIAN WELLS—F. Cavallaro, San Jose, Cal.
627,251.—ARTESIAN WELLS—F. Cavallaro, San Jose, Cal.
627,101.—SEWING MACHINE TREADLE—H. Cramer, Sonora, Cal.
627,254.—FRUIT GRADER — Cunningham & Barngrover, San Jose, Cal.
627,257.—ELEVATOR CAGE ESCAPE — Haines & Creighton, S. F.
627,258.—ROPES AND CABLES—A. S. Hallidie, S. F.
627,131.—HOPPLE — T. J. F. Miller, Portland, Or.
627,270.—RAISIN SEEDER—J. B. Rice, Fresno, Cal.
627,209.—BEET PLOW — W. F. Schmidt, Salinas, Cal.
627,276.—BOX—D. F. Sherman, Newcastle, Cal.
627,277.—LETTER FILE—W. Shyvers, Santa Barbara, Cal.
627,270.—PENCIL SHARPENER—J. D. Stassart, Portland, Or.
627,214.—APPLYING INSECTICIDES — J. B. Steele, National City, Cal.
627,360.—TALLYING APPARATUS — C. L. Sturges, Escondido, Cal.
627,282.—MOTOR CARRIAGE—W. E. Twichell, St. Helena, Cal.
627,284.—HAND TRUCK—L. B. Walker, Glendora, Cal.
627,166.—TEA BALL—Caroline A. White, Redondo, Cal.
627,373.—HEATER—C. T. Wise, Sr., New Bridge, Or.
627,315.—PUMP—W. C. Woodward, Los Angeles, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

SAFETY SUCTION VALVE FOR PUMPS.—Charles S. Booth, Oakland, Cal., assignor to the Oakland Iron Works. No. 627,454. Dated June 20, 1899. This invention is designed to provide a safety device by which the inlet valves are prevented from dropping into the pump by reason of its disconnection or breakage of parts, and is applicable to that class of pumps designed to compress air, ammonia, or other gases, or like fluids. It consists of inlet valves having shanks with surrounding collars intermediate of their length, cages centrally bored to guide the valve shanks or stems having annular chambers corresponding with the chambers, these chambers having a length sufficient to admit the movement of the valve in opening and closing. The cages are formed in two segments so that they may be separated by the introduction of the valves and bolts by which they are held after the valves are in place. Suitable springs serve to close the valves after they have been opened by the inwash of air.

MACHINE FOR MANUFACTURING ROPES OR CABLES.—A. S. Hallidie, San Francisco, Cal. No. 627,258. Dated June 20, 1899. This invention relates to the manufacture of wire ropes and cables and a means for shaping the individual strands so as to present a larger surface to the parts with which they come in contact such as the grooves of pulleys or wheels over which they may pass. It consists principally in the employment of compressing rolls by which the individual strands are compressed and flattened into shape in spiral lines and then laid up to form the rope without being themselves twisted. The spiral formation coinciding with the lay or twist of the rope, the drawing-off mechanism controls the operation of the compressing mechanism so that they act in unison, and when the cable or rope thus made is laid up, the outer surface will have a curvature dependent upon the diameter of the rope with a very small proportion of interstices such as are found where the ordinarily formed strands are laid up into the rope without other treatment.

MOTOR CARRIAGE DRIVING MECHANISM.—Walter E. Twichell, St. Helena. Cal. No. 627,282. Dated June 20, 1899. This invention comprises an improved means for transmitting power from the main driving shaft of a motor to a supplemental or countershaft and a means for transmitting the power from this countershaft directly to the wheels to be driven, also mechanism for reversing the apparatus when required. The vehicle wheels are turnable upon their axles, the rear axle being fixed and the front one having short spindles hinged to it so that the front wheels are turnable with these spindles. Power is transmitted from the countershaft to sprocket wheels on the forward wheel hubs and the chains pass over grooved direction pulleys so that the direction of the chains from the countershaft sprockets to the wheel shafts is changed without the interposition of any other mechanism or wheels. A peculiar arrangement of sinuous curved yokes is employed with connecting pitmen reciprocated thereby and arms diverging from the pitmen ends, links with which the opposite ends connect, and rack bars connected with and reciprocated by the arms. The movement of the rack hars is transmitted through pinions and a pawl and ratchet mechanism which converts the reciprocating into a continuous rotary motion.

FRUIT GRADER.—L. Cunningham and H. M. Barngrover, Los Gatos, Cal. No. 627,254. Dated June 20, 1899. This invention is designed for grading of fruits of various kinds, such as prune plums and other drying fruits. It consists in the combination of a plurality of separable frames disposed in line and provided with chutes. Independent shaking screens are fixed above the frames with openings of progressively increasing size. Hangers serve to pivotally suspend the outer ends of the frames, and means are constructed by which the connection between the frames and the power devices can be made or broken. Suitable grading compartments are arranged with relation to the screens so that the various sizes can be collected therein, and means hy which the operation of grading can he readily inspected. The screen frames can be detachably connected with each other without disturbing the action of either and by means of turnable direction boards the product can be directed to any desired point.

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Open All Year. : A. VAN DER NAILLEN, Pres't.
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Dubuque, Ia. San Francisco, Cal.

Patrons of Husbandry.

San Jose Grange.

To the Editor:—Thinking that you might be glad to hear directly from San Jose Grange, I take this opportunity of reporting. At its regular meeting held last Saturday, Worthy Overseer D. W. Coates presided. The meeting was largely attended and much time spent in the discussion of pumps for irrigation.

Many pumps are extensively advertised as being "just the thing," but it was thought wise for the purchaser to see each pump in actual operation before making a selection.

Bro. Ehrhorn stated that he put up a 40 H. P. steam plant with a ball-bearing pump that is throwing 850 gallons of water per minute. In his engine Mr. Ehrhorn burns one cord of pine wood in twelve hours, the wood costing $6 per cord. The engine is placed so that the steam can be used for heating the prune dipper, and, in case of a wet season (by connecting pipes), Mr. Ehrhorn can use this steam and make an evaporator of his fruit house.

Bro. C. D. Meder stated that people, when putting in steam pumps, make a mistake in getting the boiler too small.

Bros. Meder, Ehrhorn and Lee discussed the question of wood. As the heat depends upon the wood, all agreed that pine was the best wood, redwood and dry alder coming next in rank.

Bro. G. W. Worthen spoke upon fuels in general, saying that the oils and different varieties of wood were doing their parts, but that electricity is the power that should be used, and, he felt confident, would be used in the near future.

Insects.—The red spider has made its appearance in some orchards, and, upon being asked, Bro. Ehrhorn stated that common sulphur put on with a bellows was the remedy, but that the ladybirds were destroying great quantities of this insect.

To kill out the peach moth, spray with kerosene emulsion in December or January. If this is not done and the moth appears, the only remedy is to pick off each moth as it is found upon the tree.

New Grange.—San Jose Grange is very proud of her recently organized sister Grange at Los Gatos and is doing all in her power to help Los Gatos Grange to become influential. The Patrons in this new Grange are earnest and enthusiastic workers, and we feel are sure to make a success of their Order. We hope that, with its two energetic Granges, Santa Clara county may take the lead in Grange work.

Crops.—This part of the valley has a good hay crop, which is rapidly being baled and stored. The orchardists are rejoicing over the fact that the fruit crop is much larger and of better quality than was at first anticipated. All expect good prices for fruit of every variety, green and dried, as the foreign market is without these products.

San Jose, Cal. L. S. W.

A LATER MEETING.

According to the *Mercury*, at the last meeting of San Jose Grange Worthy Overseer Coates presided in the absence of Worthy Master Leigh. The attendance was not large, and most of the time was taken in listening to a very interesting talk on "Useful Plants," by Professor Volney Rattan. His talk was instructive and beneficial, dealing as it did with many of those plants the products of which are found in every household, but which, on account of the fact that they are not grown in the immediate vicinity, are unfamiliar to the average person. Many of the plants that he mentioned are grown in California, but are little known to the person not a student of plants. At the close he was given a vote of thanks by the Grange for his donation to the entertainment and information of the lodge.

The question of a free open market in San Jose is to be taken up and discussed at the next meeting on Saturday.

It was announced that the Los Gatos Grange would only hold a meeting once a month for the next three months.

Mr. and Mrs. Baker of the Los Gatos Grange were present, and an invitation was given by Mrs. Baker for the Grange to have a picnic at her home in the near future. No definite action was taken in the matter.

Santa Rosa Grange.

To the Editor:—I was instructed to forward you a copy of the following resolution, which was adopted by Santa Rosa Grange at the meeting held June 24, 1899:

Whereas, The Perkins Horseshoe Manufacturing Co. of Providence, Rhode Island (through their agents in San Francisco), have refused to sell horseshoes to any one who is not a member of the Horseshoers' Association, therefore be it

Resolved, That all Grangers and farmers should see that no Perkins horseshoes are put upon their horses. F. L. Gamble, Sec'y.

Santa Rosa, June 28th.

At Stockton Grange.

On Saturday, July 1, Stockton Grange celebrated in advance the Fourth by uniting with the children in patriotic recitations, songs, and by having a glorious time. A full programme of music and recitations was well rendered and thoroughly enjoyed by all, after which ice cream and cake were served.

Mr. Crocker's Bid.

Henry J. Crocker, the well-known capitalist, and who for the past few years has been the president of the California Wine Makers' Corporation, on Saturday addressed over 1400 circular letters to the grape growers of this State. The following is from the circular:

"I propose to make an attempt to assure to the grape growers a fixed price annually for his product, and thus remove him from the uncertainties of a fluctuating market.

"The average price of grapes for the past ten years has been $10.50 per ton. With absolute control I feel such confidence in my ability to increase this value that I will pay you cash on delivery $14 per ton for all the standard varieties and $12 per ton for Missions and Malvasias.

"Contracts will be made separately with each individual grape grower, and, should I secure enough contracts to make the project feasible, I feel assured that the capital which was interested in the success of the wine makers will gladly come forward in the grape growers' interest, and the result will be a benefit to the various branches of the industry. If I fail to secure the contracts I will be compelled to drop the project."

Eastern Fruit Reports.

The New York section of the Weather Bureau, date of June 26, says: Cherries will be plentiful; some now on market. Apples and plums are dropping badly. The strawberry supply is much lighter than promised a few weeks since. Grapes are in promising condition.

Arkansas section, June 27, says: The yield of fruit, with the exception of peaches, which are a failure, will be good in some sections, while in others the crop will be short.

Missouri section, June 27, says: Early apples are ripening. There is considerable complaint that grapes are rotting.

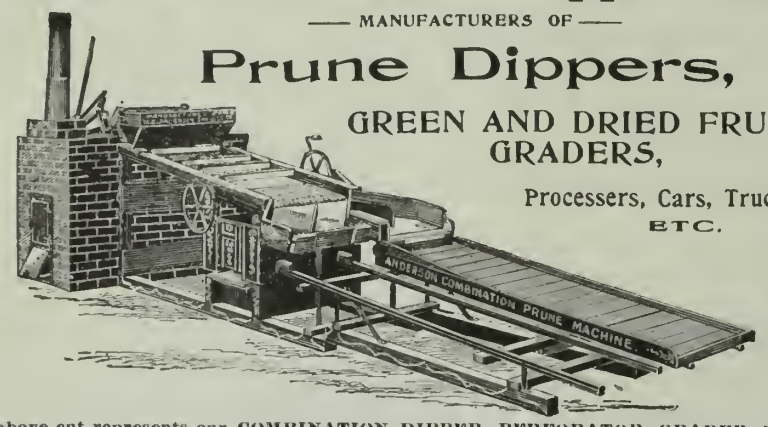
The Anderson Prune Dipper Co.,

—— MANUFACTURERS OF ——

Prune Dippers,

GREEN AND DRIED FRUIT GRADERS,

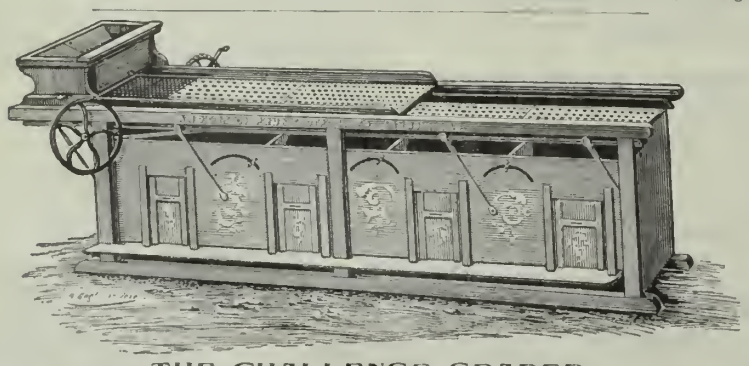
Processers, Cars, Trucks, ETC.



The above cut represents our COMBINATION DIPPER, PERFORATOR, GRADER AND SPREADER. A complete and successful machine for handling Prunes.

Anderson Prune Dipper Co., San Jose, Cal.—Gentlemen: The large-sized Combination Prune Dipping Machine, which we purchased of you last season for our Healdsburg plant, I consider the best machine at the present time for handling green prunes, both in labor saving and the thoroughness of its work, covering all points necessary of a machine of this kind

Yours respectfully, PORTER BROTHERS COMPANY,
By Chas. B. Bills, Manager.

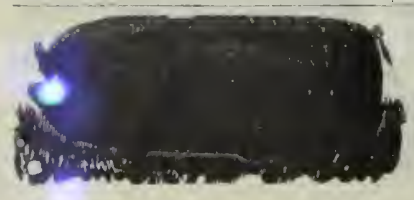


THE CHALLENGE GRADER.

Our New Grader for this season is the Favorite. Some of our early patrons are Porter Bros. Co., San Francisco; Guggenhime & Co., San Francisco; Phœnix Raisin Packing & Seeding Co., Fresno; Porter Bros Co., Fresno; Haven Bros. Co., San Jose; Ben C. Marr, San Jose; Miley Packing Co., Miley, Fresno Co. ☞Watch this space next week.

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Has lately been largely increased; new and better blood added. Choice pigs, any age, for sale at reasonable prices. See our exhibit at State Fair this fall.

SESSIONS & CO.,
Jas. R. Boal, M'g'r.
P. O. Box 686, Los Angeles, Cal.

Breeders' Directory.

Horses and Cattle.

HOLSTEINS—Winners of every 7 days' butter contest at State Fair 1898 1st & 2nd for aged cows, 4-yr., 3-yr. & 2-yr.-olds; *21 Jerseys & Durhams competing.* 4th year my Holsteins have *beaten* Jerseys for butter. Stock for sale; also pigs. F. H. Burke, 626 Market St., S. F.

JERSEYS, HOLSTEINS & DURHAMS. Bred specially for use in Dairy. Thoroughbred Hogs. Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders, for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

J. H. GLIDE, Sacramento, Cal. Have 70 choice Durham Bulls for sale.

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J. R. CATLETT, Pleasant Grove, Cal. Breeder of fine S. C. Brown Leghorns and Mammoth Brouze Turkeys. Leghorn eggs 50c for 13 or 11 settings for $5.00. Turkey eggs 25c each. Write for wants. Satisfaction guaranteed.

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WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties of Poultry, Dairy Cattle and Hogs.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

Swine.

BERKSHIRE, POLAND-CHINA & DUROC HOGS. Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle, Poland China & Berkshire Hogs. 12 Premiums (2 Sweepstakes) last State Fair.

J. P. ASHLEY, Linden, San Joaquin Co., Cal. Breeds Berkshire, Polaud-China and Essex Swine.

Sheep.

T. W. THOMSON, Santa Cruz, Cal. Thoroughbred Southdown Bucks and Ewes for Sale.

✦ FANCY POULTRY. ✦

We keep all the leading varieties. Have 60 breeding yards. Why not improve your stock. Man'f'r of the Improved Pacific Incubator. Absolutely self-regulating, hot water. Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.* PACIFIC INCUBATOR CO., 1317 Castro St., Oakland, Cal.



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FITS Permanently Cured. No fits or nervousness after 1st day's use of Dr. Kline's Great Nerve Restorer. Send for FREE $2 trial bottle and treatise. DR. R. H. KLINE, Ltd., 931 Arch St., Philad'a, Pa.

An Irrigated Orchard.

The Rivera Orchard, owned by Messrs. White, Cooley & Cutts of Marysville, and situated on Feather river, seven miles southeast of Gridley, is about ten years old, and for three years more or less irrigating has been done, which the Gridley *Herald* says is so eminently satisfactory that the owners now propose to bring the whole orchard under irrigation, and confidently expect that the increased yield will more than compensate them for their large expenditure of money in building the plant.

Mr. Cutts has two sources of supply. One is a lake formed by a cut-off of the river many years ago and the other is a series of wells. In the former case a deep trench was dug from the lake to a pit 6x12x15 feet. In this trench was laid a closed wood flume and the ditch then filled up. The waters of the lake pour into the pit, and a 6-inch centrifugal pump raises the water, forcing it through a pipe to the head of one of the main supply canals. It is then distributed through the orchard, and the ground irrigated by means of the check system. This one pump gives Mr. Cutts 100 miner's inches of water. The upper half of the orchard has already been irrigated and the water is now being conducted along an ancient levee built by the Indians to the lower part of the orchard, to help out the watering of that part of the ranch. The second supply comes from a series of four 12-inch wells, using the same sized pump. The casings, which extend to the bottom of the wells, are perforated for 5 of 6 feet of the lower lengths, and when the pump is speeded up, and the water of the well runs down, the water from the surrounding soil pours in in small rivulets. Mr. Cutts proposes to sink other wells, connect them with the pump and add to the capacity of this plant.

Straw Burning Boiler.

This boiler has been severely tested the past two years in the coast counties where heavy fogs prevail and also in the valleys, and in no instance has it been found wanting. It has proved to be the easiest steaming straw burner ever introduced.

The shell and main flue of the boiler are conical in shape, that is, larger at one end than the other. This construction gives large heating surface and carries less water in proportion than the old style of straw burners. The main flue being large at the furnace end gives large grate surface and plenty of room in the firebox to burn straw, which is absolutely necessary in a successful straw burning boiler. The design of furnace also gives draft, and the flame and gasses bursting forth into the smokebox creates perfect combustion, leaving little or no cinders to be removed therefrom. When mounted a large proportion of weight falls below the rear axle, which prevents it being top heavy, and the front end being small in diameter gives freedom to the axle in making short turns. All boilers are fitted with circulating water gates; patent drop door funnel for feeding straw, and in addition to the engine pump, have an injector of large capacity for feeding the boiler. All doors, liners, heads, etc., used on these boilers are cast from iron patterns, and parts can be duplicated at short notice. This boiler is the strongest threshing boiler in use, and with proper care will last a lifetime. Shell of boiler, 5-16-inch steel plate, 60,000 pounds T. S., diameter 40 to 50 inches; main flue, 7-16-inch steel plate, 60,000 pounds T. S., and made of one single sheet, diameter 15 and 30 inches; 54 tubes 2¼ inches, 8 feet long. These engines and boilers are complete in every respect, and are mounted on heavy axles with wrought iron wheels.

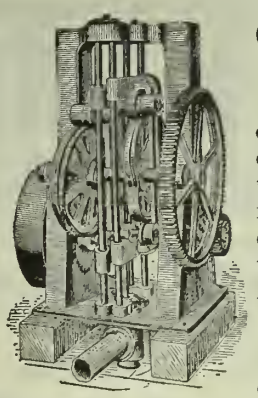
These boilers and engines are built by the Bay City Iron Works, 521 Third street, Oakland, California. See advertisement on another page.

—During May the Canadian Pacific Railway sold 39,400 acres of land for $124,800. The Canadian Northwest Land Co.'s sales for the same month aggregated 52,000 acres for $28,500.

$100 Reward, $100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is Catarrh. Hall's Catarrh Cure is the only positive cure known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of testimonials.

Address: F. J. CHENEY & CO., Toledo, O.
Sold by Druggists, 75c.
Hall's Family Pills are the best.

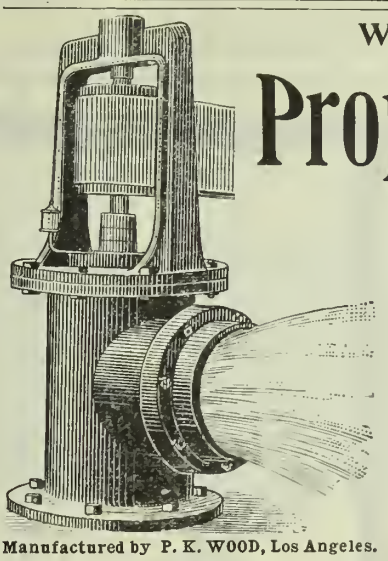


OUR TRIUMPH DUPLEX DEEP WELL PUMP

differs from all others in these particulars: It throws a continuous, unbroken stream without pulsation, vibration, water hammer, air chamber, counter balance, or fly wheel. It has no dead centers or cranks. All work comes on the lift stroke, moving vertically on the center line. We need no anchor bolts with our pumps. Requires less power. Is a perfect pump.

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WOOD'S DEEP WELL
Propeller Pump.

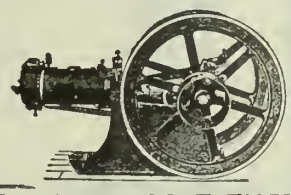
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A simple screw propeller pump. No valves. No complicated parts. Requires no expensive shafts to be dug to water level. Most reliable and most economical pump on earth for irrigation, mines, rivers and water works.

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PIERCE GASOLINE ENGINES
Can be used with Gasoline, Coal Gas or Natural Gas. ALL SIZES.
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that Page Fence contains better wire than its competitors. The Page requires it, the others couldn't safely use it. Ask us why.
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THE BEST SPRAY NOZZLES.
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PATENTS



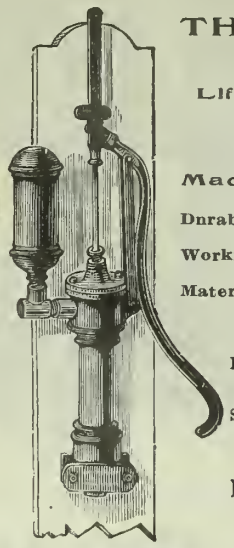
DEWEY, STRONG & CO'S
PATENT AGENCY.

Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports, with full copies of U. S. Patents since 1872. All worthy inventions patented through DEWEY, STRONG & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We can give the best and *most reliable* advice as to the patentability of new inventions. Our prices are as low as any first-class agencies in the Eastern States, while our advantages for Pacific Coast inventors are far superior. Advice and circulars free.

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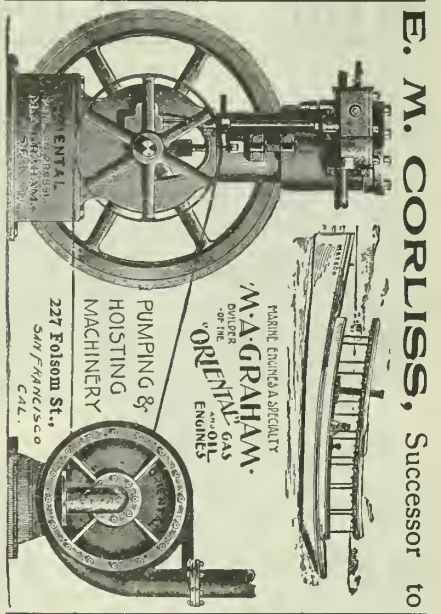
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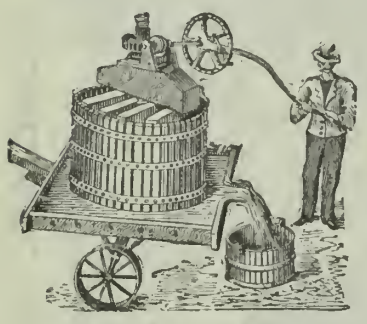
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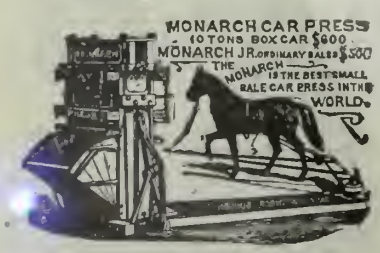
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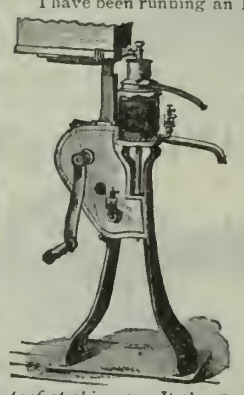
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We are well pleased with the No. 5 U. S. Separator we bought last winter. It is easy to clean and a *perfect skimmer*. It also runs a great deal lighter than any other make in the neighborhood. B. O. LEE.

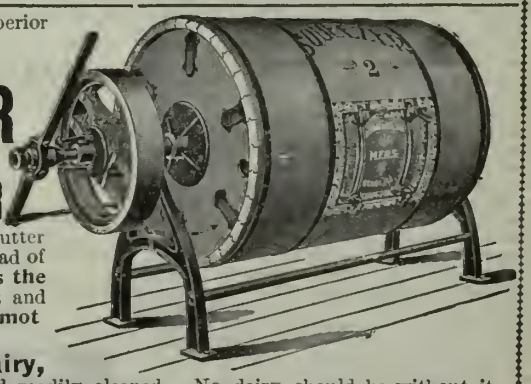
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AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 3. SAN FRANCISCO, SATURDAY, JULY 15, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Irrigation Beginnings in Wyoming.

The presence in California of Mr. Elwood Mead, in charge of the irrigation work entrusted by the last Congress to the United States Department of Agriculture, makes it timely to reproduce from his last report, as State Engineer of Wyoming, some engravings which are significant of the irrigation opportunities in that State, which he has labored so faithfully to utilize for the public benefit. The pictures are perhaps chiefly of picturesque import and will appeal strongly to those who love waterfalls and lakes for their inherent beauty, but they also have a profound industrial significance as a demonstration of available water in one of our arid land States. Wyoming has many irrigation enterprises already and they are adding much value to the State in the aggregate, although they do not yet involve the capital and engineering works which minister to California irrigation. One point, however, and it is one of importance, is that through Prof. Mead's work the State of Wyoming knows more thoroughly her resources in this line than California does, because he has so systematically presented in his reports the foundation facts about available water, the extent of present ownership and the feasibility of multiplying the present supply. We believe that such work as Prof. Mead has done for Wyoming would be of almost incalculable value to California as the basis of future systematic water development and use. At present we have no comprehensive and adequate data in this line, and we hope Mr. Mead's work for the general Government may at least point out a feasible route by which California may proceed to such a knowledge of her available water supply, over and above what is already under appropriation, as shall clearly point the way to future operations. Secretary Wilson, under whose direction Mr. Mead proceeds, is expected to be soon in California anxious to inform himself upon our forestry and irrigation needs, as well as other agricultural desiderata, and it will be a good opportunity for those interested and acquainted with the facts to get a hearing.



Divide Between Little and Big Goose Creeks.

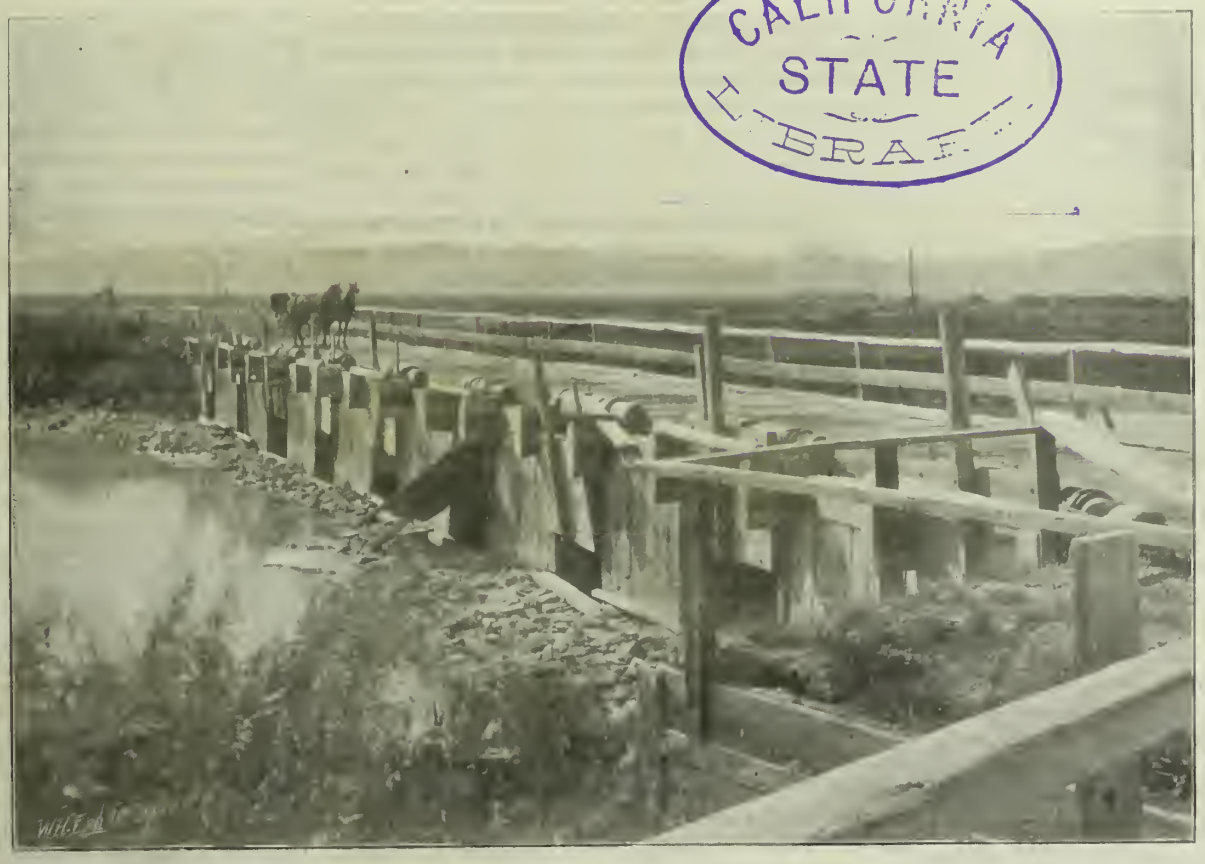


Dome Lake Reservoir.



Dam at Outlet, Dome Lake.

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Picturesque Headgate and Dam on a Wyoming Stream.



Fall on Big Goose Creek.



Fall on Big Goose Creek.



Fall on Big Goose Creek.



Drop on Piney and Cruse Creek Ditch.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, July 15, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The convention of agricultural teachers and investigators is still a leading topic of comment, for, though the formal meetings have been finished, the delegates are still in the State and this week are examining with much interest the natural and cultural charms of California. The excursion trains carry the company hither and thither without cost; the localities visited are extending a most cordial and cheerful welcome. It seems to be a question of endurance and capacity as to whether the visitors can contain all that is provided for them. The assembly and its component parts commended themselves very strongly to San Francisco. Never has a city enjoyed such a display of the scholarly side of agriculture, because this society is unique in this respect, and it freely admits that this, its thirteenth session, is the greatest it has ever held. It is fortunate, perhaps, for the State that the equilibrium of San Francisco has this display of scholarship, because it is an offset to the ebullition of erudition which Los Angeles is enjoying with its visit of the National Teachers' Association. No doubt, as President Stubbs describes in another column, the meeting will result in considerable benefit to the State in many ways. It is not exactly an instance of entertaining angels unawares, because we knew they were angels before they came, but the residuary blessing will enter into our possession all the same. Upon other pages of this issue the reader may see how widely the delegates represent the country, and may also perceive some outlines of the convention's work. Other matters will crop out in our columns for some time to come.

There is not much change in the grain market this week. Wheat futures are slightly off. Barley is strong and in good demand for export. Old oats are scarce and high, but the new oats received are poor and low. Millstuffs are barely steady, bran tending downwards. Hay is about the same. Of live stock, beef is unchanged, mutton is firm but quiet, and hogs higher. The dairy market inclines upward on choice qualities, but exhibits no firmness on other grades. Young full-grown turkeys are scarce and wanted, but old stock is not in demand. Dried fruits are stiff, especially apricots. Beans are firm and most kinds higher, as there is both a shipping and speculative demand. Wool is firm, and stocks are nearly all bought up. Most seasonal vegetables are plentiful and cheap. Potatoes are quiet and not so strong. For details reference is made to our market report in another column.

Hearts, Homes and Horticulture.

For the last two decades the growth of commercial horticulture has been the most important factor in our industrial development. Fruit growing as a business, advancing with such great and rapid strides, takes little account of those lighter arts of horticulture which appeal more directly to taste, sentiment and emotions. It is true that the fruit grower's life is constantly environed by natural beauty and he practices arts which should be suggestive of the needs and the delights of the higher attributes of his nature. The swelling bud, the expanding bloom, the variety and richness of the fruit—all these teach not alone the wonderful beauties of nature, but clearly show the harmony of all the work of the Great Creator—the processes of nature in vegetation loyally accepting the guidance and direction of the human mind. And this must be accepted also as an interpretation of the Divine purpose and a manifestation of the sublime reciprocity which He has established between the several provinces of His earthly kingdom. As man develops and improves the plant and shapes its growth to better serve honorable ends, the mental acts react upon the mind itself; it sees new beauties, it discerns new uses, it invents new methods and processes, it perceives new and more refined relations and differences. The action is horticulture, the reaction is homoculture. As we regard ourselves therefore as something more than industrialists, as we recognize in us our God-given manhood and womanhood, it is fitting that we should stop a moment in the midst of our busiest affairs for a few thoughts on the progress of a horticultural art which is acknowledged to minister most directly to the higher attributes of humanity.

The love of the beautiful is the mainspring of our noblest emotions. Even the man who confines his horticulture to the growth of fruit has constantly about him that which is fitted to awaken appreciation of the beautiful, if he will but open his eyes and heart and meditate upon the significance of his daily acts. Such, however, is the engrossment of the industrial idea that few are able to associate with it any sentiment save the thirst for industrial success. The industrialist in horticulture is apt to look upon a blossom merely with a wonder as to whether it will set the fruit or not; he views the tree which he has so carefully pruned and trained, not with admiration of its symmetry and its other manifestations of beauty in form, but merely calculates its ability to carry a crop of fruit; he admires his ripening fruit, not for its matchless perfection as a result of his partnership with the Creator in its culture, but for its possible price per pound, and even its beauty mocks and displeases him when the market ill favors his enterprise. All this is natural and perhaps unavoidable. It is not peculiar to the fruit grower. The industrial and the commercial ideas are always tyrants and monopolists. The merchant prince is apt to esteem the paintings by which he adorns his home by their cost, and his books by their bindings. His wife may select her fabrics by their value, not by their beauty. Nor would we quarrel with our master—industry. Though he be exacting, engrossing, despotic, he usually keeps good faith with loyal servitors; he gives them the very best he has in the way of rewards, which is wealth and success.

But he who allows the industrial idea to wholly encompass his horticulture really does his profession an injustice, because horticulture is more than trade—it is more than manufacturing. From times beyond the dawn of history man has found in horticulture, not only meat and drink, but inspiration, delight and elevation. And yet the debasement of horticulture, as well as its ennoblement, was foretold by a portentous omen: Adam and Eve found both God and Satan in their garden. To us, however, the lesson is clear, as it was to the earliest sinners: yet not to the tempter, who would teach us to forget and wholly neglect the higher interests of our humanity in our pursuit of material success.

We should generally enter now upon the third stage in the development of the California rural home. The first stage will be easily remembered, for many homes have not yet passed beyond it: the old cabin or ranch house upon the stock or grain farm, its weather-beaten sides environed by corrals, with dilapidated sheds and barns, its chief dooryard ornaments being farm tools and machines soaking in the rain and bleaching in the sun, its borders of old cans and broken crockery—a picture of unthrift and desolation.

The second stage is the home amid the orchards, a vast improvement surely, for the beauty of the trees win the eye from the neglect of the houseyard; and the outbuildings, generally of recent construction, are trim and inconspicuous. It is seldom, too, that the home-maker in an orchard wholly neglects the shrubbery and climbers he can get so easily with his purchase of nursery trees.

The third stage in the development of the rural home is attained just as soon as the spirit of enterprise, neatness and good culture, which are essentials to success in the orchard, takes possession also of the houseyard. Then there spring up around the house thrifty blooming plants adapted to the locality, good hard roads and walks follow lines of convenience toward definite points and stretches of lawn in which grass or plant beds predominate, according to the taste or water supply of the owner, carry the eye from the tasteful beauty of the cottage until the vistas end in the converging rows of orchard trees. It is such homes as these that commend California to the visitor, that win the love of the youth, that will be remembered always with joy and blessing. We have many such homes now and California has largely to thank the fruit interest for them. There is no good reason why all kinds of farms should not have such homes, though it must, of course, be acknowledged that the fruit grower can most easily secure them.

But from a floricultural point of view such a state of homeside culture as has been outlined is but just at the beginning of skill in growing, of discrimination in selecting, and admiring and of depth in appreciation. A person can possess such a home garden without any particular fervor or intensity of interest in it. He has the general consciousness that it is trim and neat and nice to have. We might have about the same sentiment over a new stable floor. It is only when one begins to look the flowers straight in the face and note their particular beauties that knowledge of them really begins. Then when the first lesson in flower loving is taken the longing for more knowledge, more skill and truer floriculture takes possession of the heart. One must learn something of the relationship of the plant, the history and origin of the variety, the culture which enables it to attain its highest excellence. Then comes the yearning for more varieties, to know which are the best and to secure them. The home acre becomes no longer merely a piece of decoration, it is an awakener of the deepest interest, a sharpener of the senses and the perceptions, an inspiration to admiration and adoration. It invites thought and purpose; it affords the most charming recreation. It is to the present age what theatre, grove and temple were to the ancients.

Fruit Display at Paris.

The Paris Commission received a letter from G. B. Brocket, head of the division of pomology in the United States Department of Agriculture at Washington, D. C., notifying the Commissioners of the allotment of space that had been made for the display of canned and evaporated goods from California.

The space given to this State, though circumscribed, is one-half of the total space allowed the United States. The area of the compartment, however, is quite sufficient to allow the best of our products in this line, and none but the best will be accepted, to receive ample notice. It is 15 feet in length, 6 feet in depth and 10 feet in height.

There has been no space given for the display of fresh fruit preserved in glass in its natural state, but in the cases of a few exceptionally fine specimens room will be made somewhere.

Manufacturers Advance Prices.

Manufacturers of drill and seed implements met in Chicago July 11th and decided to make an advance of 15% in prices of seeders and drills. This action was taken, it was said, on account of the large advance that has been made in iron and steel.

QUERIES AND REPLIES.

An Alkali Spot in a Garden.

To the Editor:—Can you tell me through your paper if there is anything that can be done to redeem black alkali land? There is only a small piece on my place and it is in the front yard, and vegetables and flowers alike refuse to grow. Will ashes or manure have any effect on it?—Harry Johnson, San Antonio, Lower California.

It is quite possible to cure a spot of black alkali and it is more practicable to do it in a garden, because one does not care so much what it costs and is willing to count his gratification as a value which he could hardly advance as a consideration in alkali reclamation by the acre. There are several ways in which it can be done if one is willing to make the expenditure of time and money. If water is available and an outlet for drainage can be secured, cut a ditch 3 or 4 feet deep from the center of the spot to the point where the drainage water will escape. Put in drain tile, or, if these are not available, fill the bottom foot of the ditch with broken rock or cobbles, cover with brush or straw, and fill up the ditch with earth. Throw up a little levee a few inches high around the spot and fill with water. As soon as this has soaked away fill up again, and keep doing this as long as your water or patience holds out. This will wash out the alkali, and if water is used freely upon the grass or whatever you plant on the spot there will probably be no more trouble from alkali. This is the surest way to cure an alkali spot. If water is not available and drainage too expensive, or otherwise not feasible, the next best treatment is the use of finely ground gypsum. In the presence of moisture this sulphate of lime changes partners with the carbonate of soda, and the result is carbonate of lime and sulphate of soda. The latter is white alkali and is not so corrosive as the black, consequently more plants will grow in its presence. The amount of gypsum depends upon the amount of carbonate of soda. It is too expensive to reclaim bad black alkali in this way on a commercial scale, but the cost of curing an eyesore in a garden does not come under strict commercial calculations. The use of manure produces a good effect if worked into tough, black alkali soil and if spread upon the surface, because it prevents surface evaporation and consequently checks the rise of the alkali and its condensation upon the surface. Such treatment is quite satisfactory after the alkali is washed down or treated with gypsum and trees or shrubs are planted. If the manure is used after washing out and deeply spaded in and the surface sown with alfalfa, you will probably get a good stand, which will cover the ground and, by checking surface evaporation, prevent the subsequent rise of the alkali. Some black alkali tracts have been reduced sufficiently for a stand of alfalfa by repeated flow of water over the surface and the descent of the water without drainage. This merely distributes the alkali through a thicker layer of soil and makes it too weak at any point to do harm. The success of this plan depends upon a certain depth of soil and the absence of hardpan near the surface to prevent the downward course of the water. Ashes are of no use in alkali reclamation. The soil has too much alkali already, and the application of ashes simply means adding alkali.

After-Treatment of Grafts.

To the Editor:—I have about six or seven acres of plums which have been and will be grafted over to French prunes, etc. I am in doubt as to the correct time to cut away the second, or aiding, graft, and also how to cut it away—squarely or obliquely. The grafts are in 1½-inch to 2½-inch and even 3-inch wood. In two-year-old grafts in some of the 2-inch limbs the two grafts have almost met. Also, would you advise any summer thinning of limbs in one or two-year-old grafts?—Agricola, Napa.

Our correspondent's question relates to top-grafting, where a scion is put in each side of the split of the stump and where both of them grow. We would cut away before the grafts meet in the center, but just when is immaterial. If you wish to force the growth of one, remove the other as soon as both are seen to have taken permanent hold. If the stump is large, it is desirable to retain the longer, because it keeps that side of the stump from dying back, and some do not remove it at all, but run the chance of a weak fork at that point. As a rule, we would remove surplus grafts on deciduous trees at the first winter pruning on all except very wide stumps, and we would have as few wide stumps as possible. Always cut with a surface sloping away from the bud. Such a stump is less likely to rot and the bark much less likely to die back on the edge opposite the graft—in fact, on the smaller limbs we would put a graft on one side and at once slope the stump up towards the base of that graft. It will grow over very quickly.

Jumbo Windmill.

To the Editor:—Having seen in your valuable paper of May 18, 1895, a description of a "Jumbo wheel," of which I think very favorably, and wishing to write to parties in Kansas using or making the same, could you kindly favor me with the address as I have no means of obtaining a description of it otherwise than by writing to them.—J. W. Green, Hollister.

These mills are very simple in construction and we believe are homemade. We regret that we have no names of makers or users at this moment. The devices are simply horizontal windmills taking motive power from winds which sweep over the surface of the ground. In its simplest form this windmill consists of four boards, about 7 feet long, fastened to long arms projecting from an axle, which has bearings on two strong posts or a framework only high enough to allow the revolving wheel to clear the ground. The wind only strikes the upper part of the wheel, the lower part being inclosed by a board fence. In a slight breeze the mill revolves about twenty revolutions per minute, but in a good, stiff gale it flies so fast that a sliding board must be raised to shut off the wind. The wheel is connected with the plunger of the pump by means of a crank at one end of the axle. In its larger sizes this device resembles the paddle wheel of a stern-wheel boat, with a shaft 12 to 14 feet long, a diameter of 12 to 16 feet, and has six or eight radial arms. The lower half of this horizontal wheel is shielded from the wind, so that the air acts only upon the upper vanes. A crank upon one end of the shaft connects with a pump. Its power can be indefinitely increased at any time by increasing its length, which can be done by any one who is handy with tools. One of these wind wheels, now running in Kansas, is 21 feet in diameter, 27 feet long, and has eight fans. Of course to count upon efficacy in these wheels one has to be pretty sure of a good wind—better than is had, as a rule, in California. If any of our readers have these wheels we would like to hear conclusions as to their value.

Cucumber Beetle.

To the Editor:—Will you please inform me through your columns what is the best thing to destroy the bugs that I find on my cucumber vines? They slightly resemble the ladybird, but do a great deal of damage.—New Subscriber, Vacaville.

This is the *diabrotica soror*, and it is a bad one and hard to kill. Try this and let us know the result: Take fine road dust from an adobe road, if you have one handy; stir in thoroughly one tablespoonful of kerosene to each quart, and sprinkle it freely on the plants and around them. It sometimes acts like a charm.

Apricot Pit Cracker.

To the Editor:—Is there machinery made for crushing apricot pits so that the kernel does not get mashed, and, if so, where can such machinery be had?—F. Heinsius, Toluca, Los Angeles Co.

There are hand pinchers used in France for cracking olive pits, etc., without injury to the kernel, which sprouts more readily when the hard shell is cracked. Some such arrangement could be easily gauged to work on apricots. Does any one know of a power machine to do such work? On our Agricultural Review page, under the head of Napa, is given a description of a process in use there for separating shells and kernels.

Killing Blue Gum Stumps.

To the Editor:—On one side of my orchard was a row of blue gum trees which I cut down last August. They are continually putting out new growth from the stumps. I cut them off every week, but they continue to grow. How can I kill them?—Reader, Lakeside.

We do not know how many ways this can be done, but we have always succeeded in this way: As soon as the tree is cleared away we clean away all the bark from the top of the stump to the ground, as cleanly as it can be quickly done with a small hatchet. There will be some pieces left and some growth will start from these, but it can be easily cleft off with the hatchet, taking the bark at the base away also. We killed some very large stumps in this way with very little subsequent hatchet work. Cutting away suckers does no good unless you take away the bark which contains the latent buds. We have tried boring into stumps and treating with different things, but nothing seems to work so well as cleaning away the bark.

Peach Budding.

To the Editor:—What time is best for budding peach trees and what size should they be?—W. E. Mee, St. Helena.

July and August are the months during which most budding is done. As for size you can bud anything which is large enough to take the bud, from the size of a goose quill to the size of your finger. This is for seedlings which have grown from pits planted last winter. Bearing peach trees can also be budded now in the wood which has grown this summer, or if you use a larger bud with a thicker shield behind it, you can bud in the old bark of the peach.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 10, 1899.

Alexander McAdie, Forecast Official and Station Director.

Normal temperatures prevailed throught the State during the week, and no precipitation was reported. Grain harvesting continues, and threshing has commenced in some sections. The yield of wheat in the northern and central portions is very heavy, and the quality generally good. Barley is proving better in some localities than had been anticipated, but the yield and quality are not quite up to the average. Deciduous fruits are ripening rapidly, and are being shipped and dried. Peaches are the chief crop, and the yield is enormous; other fruits, with the exception of apricots and prunes, are yielding fairly well. The red spider has appeared in some orchards, and thrips have attacked vineyards, but no material damage has been reported. Watermelons are in the market. At present the outlook is good for corn, sugar beets, beans, potatoes and all vegetables. The second crop of hay is being harvested. Pasturage continues good in most sections. In portions of the extreme south artesian wells have ceased flowing, and the water supply is low.

Sacramento Valley.

Fruit.—Conditions have been favorable during the week, and fruit is maturing rapidly. There is a large crop of peaches and Tragedy prunes. Orchardists are irrigating in some sections. Pears and grapes are doing well. The red spider is damaging trees in some orchards.

Grain.—In many places the yield is better than expected. Harvesting continues, and threshing has commenced. The wheat crop is above average; oats and barley fair.

Minor Crops.—Potatoes are below the average.

Coast and Bay Sections.

Fruit.—Curl leaf and the hot, dry weather of the preceding week have caused some injury to peaches in Sonoma county, and they are dropping badly in some orchards; the yield throughout the section, however, will be heavy. The apricot crop is light; prunes fair. Vineyards are in good condition.

Grain.—Harvesting and threshing are in progress. Wheat is turning out better than expected in many places. Barley is about an average crop in quality, but the acreage is light.

Minor Crops.—Early corn is in market. Potatoes are not thriving and yield will be small.

San Joaquin Valley.

Fruit.—Grapes were benefited by cooler weather at the close of the week. Deciduous fruits are maturing and are being shipped. Watermelons are in market. Thrips are damaging grapes to some extent in localities.

Grain.—Harvesting continues and threshing has commenced. Wheat is yielding an immense crop; quality generally good. Barley is turning out a fair crop.

Hay.—The second crop is being harvested. Pasturage is drying ing in some sections.

Minor Crops.—A good acreage of Egyptian and Indian corn has been planted and the crop is in fair condition. Potatoes are in market; the yield is fair. Sweet potatoes promise a good crop.

Southern California.

Fruit.—Warmer weather during the latter part of the week was beneficial to apricots and berries, which ripened rapidly. The fruit is of excellent quality. Drying is progressing in some sections.

Grain.—The barley crop is very light—practically a failure. A number of artesian wells have ceased flowing and pumping is being resorted to.

Minor Crops.—Sugar beets and beans are progressing favorably in Ventura county. Celery and corn are looking well. Walnuts promise a good crop.

The following data for the week ending 5 A. M. Wednesday, July 12, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.00	.00	.00	.04	46	60
Red Bluff	.00	.00	.00	.01	60	98
Sacramento	.00	.00	.00	T	50	98
San Francisco	T	T	.00	T	50	70
Fresno	.00	.00	.00	T	58	102
Independence	....	....	....	....	....	....
San Luis Obispo	.00	.00	.00	T	48	92
Los Angeles	.00	.00	.07	T	56	92
San Diego	.00	.00	.00	T	56	76
Yuma	.00	.00	.00	.02	76	106

AGRICULTURAL SCIENCE.

Convention of Agricultural Colleges and Experiment Stations.

Meeting of Agricultural Teachers and Investigators in San Francisco.

WASHINGTON, July 5, 1899.

To the Association of Colleges and Stations in Convention in San Francisco: Greeting from sea to sea. We hail the workers of every kind as brothers, and put our shoulders under their yokes that knowledge may increase and plenty rule in all our borders.

JAMES WILSON,
Secretary of Agriculture.

Such was the Godspeed which the thirteenth annual convention of the Association of American Agricultural Colleges and Experimental Stations received as it convened at the Academy of Sciences building in San Francisco at 9 o'clock on the morning of July 5.

The meeting was called to order by President Henry P. Armsby of Pennsylvania. Mayor Phelan occupied a seat upon the rostrum to the right of the president, while upon his left was Henry H. Goodell of Massachusetts, chairman of the executive committee, and Prof. E. B. Voorhees of New Jersey, secretary and treasurer. The convention was formally opened with prayer by Second Vice-President Charles S. Murkland of New Hampshire.

The Official Roll of Attendance.

H. P. Armsby, Dircetor Penn. Ex. Sta.
H. H. Goodell, Prcs. Mass. Agr. Coll.
J. E. Stubbs, Pres. Nevada Coll.
C. S. Murkland, Pres. N. H. Coll.
F. P. Anderson, Ken. Agr. Coll.
E. B. Voorhees, Director N. J. Ex. Sta.
W. M. Liggett, Dean Coll. Agr., Minn.
A. C. True, Director Office Ex. Stas., Wash., D. C.
M. E. Jaffa, Univ. of Cal.
J. K. Patterson, Pres. Ken. Col.
M. A. Scovell, Director Ken. Ex. Sta.
W. K. Patterson, Ken. Col.
V. E. Muncey, Ken. State Coll.
E. H. Jenkins, Conn. State Ex. Sta.
Mrs. J. K. Patterson, Lexington, Ky.
Miss Julia Reno, Lexington, Ky.
Mrs. M. A. Scovell, Lexington, Ky.
Miss Ella Beardsley, Lexington, Ky.
Mrs. E. B. Voorhees, New Brunswick, N. J.
R. C. Kedzie, Agr. Coll., Mich.
L. G. Carpenter, Colo. Agr. Coll.
J. L. Chatfield, Member Board of Agr., Colo.
W. F. Gilkison, Univ. of Wyo., Mech. Eng.
Mrs W. F. Gilkison, Laramie, Wyo.
B. C. Buffum, Wyo. Ex. Sta.
Miss M. C. Shields, Denver, Colo.
F. W. Woll, Chemist Wis. Ex. Sta.
Ellwood Mead, Irrigation Expert, U. S. Dept. Agr.
C. B. Williams, N. C. Agr. Dept.
R. E. Blouin, Assistant Dircctor La. Sugar Ex. Sta.
B. W. Kilgore, State Chemist, N. C.
G. W. Shaw, Chemist Or. Ex. Sta.
Mrs. M. W. Liggett, Minncapolis, Minn.
E. E. Smiley, Univ. of Wyo.
F. W. Sanders, N. M. Coll. of Agr. and Mech. Arts.
R. J. Redding, Director Georgia Ex. Sta.
J. A. Myers, Delegate Propaganda for Nitrate of Soda.
Mrs. J. A. Myers, N. Y. City.
Richard Brown, Nev. State Univ.
J. N. Evans, Reno, Nev.
C. D. Woods, Director Maine Sta., Orono.
Mrs. C. D. Woods, Orono, Me.
B. D. Halsted, Coll. Sta., N. J.
S. M. Emery, Ex. Sta., Mont.
G. W. Flint, Pres. Storrs, Conn.
E. W. Allen, Office of Ex. Sta., Washington, D C.
C. L. Shear, Dept. Agr., Washington, D. C.
J. L. Hills, Director Vermont Ex. Sta.
Robert Lewers, Reno, Nev., State Univ.
A. B. McKay, Agr. Coll., Miss.
T. F. Hunt, Ohio State Univ.
N. E. Wilson, Nev. Ex. Sta
William Frear, Penn. Ex. Sta.
S. G. Maynard, Mass. Agr. Coll.
E. C. Chilcott, S. D. Agr. Coll.
R. H. Jesse, Pres. Univ. of Missouri.
S. B. Green, Prof. Hort. Ex. Sta., Minn.
H. T. French, Univ. of Idaho, Prof. Agr.
H. W. Wiley, Chief Chemist U. S. D. A.
G. E. Colby, Univ. of Cal.
N. B. Pierce, U. S. Dcpt. of Agr.
J. Burtt Davy, Univ. of Cal., Assistant Botanist.
Miss French, Supt. of Schools, Idaho.
A. A. Brigham, R. I. Coll. and Ex. Sta.
B. L. Hartwell, R. I. Coll. and Ex. Sta.
C. W. Woodworth, Univ. of Cal., Berkeley.
C. H. Shinn, Univ. of Cal., Berkeley.
E. E. Smith, Stanford Univ.
W. L. Hutchinson, Director Miss. Ex. Sta.
Arthur Gross, Ex. Sta., N. M.
H. W. McArdle, Fargo, N. D., Dept. Maths.
Mary E. McArdle, Chicago, Ill.
F. A. Rich, Burlington, Vt., Dept. of Agr.
L. H. Pammel, Ex. Sta., Iowa.
T. J. Wrampelmeier, U. S. Int. Rev., S. F.
A. J. Cook, Claremont, Cal., Conductor Farmers' Inst.
Mrs. G. W. Shaw, Corvallis, Or.
C. D. Thompson, Corvallis, Or.
E. J. Wickson, Univ. of Cal.
J. H. Worst, N. D. Agr. Coll.
E. E. Kaufman, N. D. Sta.
A. J. McClatchie, Ariz. Coll. and Station.
F. W. Traphagen, Agr. Coll., Mont.
H. H. Wing, Cornell Univ.
Mrs. H. H. Wing, Cornell Univ.
E. R. Lloyd, Agr. Coll., Miss.
H. E. Stockbridge, Agr. Coll., Florida.
H. K. Miller, Agr. Ex. Station, Florida.
R. H. Loughridge, Univ. of Cal.
C. D. Smith, Ex. Sta., Agr. Coll., Mich.
C. D. Keffer, Ex. Sta., Mcssilla Park, N. M.
F. J. Snow, Agr. Ex. Sta., Berkeley.
C. L. Cory, Asst. Prof. Elec. En., Berkeley.
G. K. Whitcomb, St. Paul, Minn.
B. F. Walton, Yuba City, Cal.
Mrs. S. H. Walton, Yuba City, Cal.
Henry Thurtell, Reno, Nev., State Univ.
N. A. Cobb, Dep. Agr., Sydney, N. S. W.
Telma Drew, Dep. Agr., Wash., D C.
R. H. McDowell, Agr., Hort., Nev.
R K. Bishop, Berkeley, Cal.
V. K. Chestnut, Wash., D. C.
Inazo Nitobe, Sapporo, Japan.
W. C. Blasdale, Berkeley, Cal.
F. J. Wikoff, Okla. A. and M. Coll. and Ex. Sta.
W. A. Goethe, Giesenheim, Germany.
B. von Herff, N. Y. City, German Kali Works.
J. H. Barber, Cal. Ex. Sta.
W. B. Rising, Univ. of Cal.
C. M. McKellips, Ag. Coll., Or.
A. V. Stubenraueh, Univ. of Cal.
W. J. Spillman, Wash. State Ex. Sta.
James Withycombe, Or. Ex. Sta.
C. E. Thorne, Director Ohio Ex. Sta.
W. E. F. Deal, Regent, State Univ. of Nev.
Frederic Bioletti, Univ. of Cal.
D. T. Fowler, Univ. of Cal., Berkley.
Mrs. C. D. Smith, Mich. Agr. Coll.
A. B. Leckeby, Portland, Or.
Frank Ellis, Nev.
Frank Adams, Wrights, Cal.
G. D. Swezey, Neb. Ex. Sta.
M. H. Buckham, Univ. of Vermont.
Mrs. M H. Buckham, Burlington, Vt.
W. A. Withers, N. C. Sta.
E. G. Runyan, Wash., D. C.
Miss M. C. Snell, Or. Agr. Coll.
E. A. Bryan, Pres. Wash. Agr. Coll.
A. M. Dal Piaz, Univ. of Cal.
Robert Withycombe, Or. Agr. Coll.
W. M. Beardshear, Iowa Agr. Coll.
H. S. Hartzog, Cleuesor Agr. Coll.
C. M. Conner, South Carolina Ex. Sta.
Mrs. C. M. Conner, South Carolina Ex. Sta.
J. H. Stewart, Director W. Va. Ex. Sta
Mrs. J. H. Stewart, Morgantown, W. Va.
B. H. Hite, W. Va. Ex. Sta.
J. M. Tanner, Pres. Utah Agr. Coll.
Mrs. J. M. Tanner, Lagan, Utah.
J. M. Phillips, Univ. of Nev.
C. S. Crandall, Colo.
J. H. Raymond, Pres. W. Va. Univ.
Mrs. J. H. Raymond, Morgantown, W. Va.

In addition to the enrolled attendance there were a number of interested visitors at most of the sessions. The convention was an industrious body, most of the hours being occupied by sessions from 9 A. M. to 10 P. M. of each of the three days—July 5 to 7 inclusive. We shall not attempt to present the proceedings in regular sequence, but will rather select topics, using enough detail to show the drift of the discussion, if possible.

The Local Welcome.—Mayor Phelan, upon the part of the State and the city of San Francisco, welcomed the members of the convention. He said:

"*Gentlemen of the Association of American Agricultural Colleges and Experiment Stations:* We of San Francisco are pleased to welcome you. We know that San Francisco is far remote from the great educational centers, and therefore we feel the compliment paid to us by your association coming such a great distance for the purpose of holding its deliberations. A programme has been arranged by which you are to be shown our State. You are to be taken through the Santa Clara, Santa Rosa, San Joaquin and Sacramento valleys. You will see our mining, grain and horticultural interests. I know what your judgment will mean to the State, and we invite it in the interest of the State. I trust that your sojourn here will be a pleasant one, and I heartily welcome you to San Francisco."

President Armsby responded. He said that the members of the association were deeply grateful to the Mayor for his welcome. "We have heard much," continued he, "of California, the Empire State of the West, and we anticipate with pleasure our inspection of it. We accept your welcome in our representative capacity, for we have come to see and examine your resources, of which we have heard so much. What little we have seen of the State has been far beyond our expectations, and I can assure you that we shall make known throughout the country the things that we find here."

Section Reports.—The first was that of agriculture and chemistry, and Director Joseph L. Hills of Vermont, chairman of the section, read a most interesting paper upon the detail work of the section during the past year. It related largely to food reform and alluded humorously to the fact that recent experiments showed that alcohol not in excess of an amount of four ounces per day has a food value.

President Charles S. Murkland of New Hampshire, chairman of the section on mechanic arts, said that it was recognized that despite the necessity for engineering experiment stations the needs of the country just now precluded their establishment. Accurate co-ordination between the courses in mechanic art and agricultural experiment must yet be achieved.

Alkali Soils.—This subject commanded much attention from the convention. Prof. R. H. Loughridge, University of California, took the place of Prof. E. W. Hilgard, University of California, who was unable to be present on account of ill health. He read a paper on "The Alkali Soils of the Pacific Coast and Their Utilization." B. C. Buffum of Wyoming read a paper on "Alkali Lands in Wyoming;" A. Gass, New Mexico, one on "Alkali in New Mexico," and F. W. Traphagen, Montana, one on "Alkali in Montana." There was little brought out in this discussion but what is already known in California, which is the pioneer State in alkali investigation.

The President's Address.—The annual address of President Armsby was the feature of one of the sessions. It was carefully prepared and most valuable in its suggestions. He spoke particularly of the aspects and objects of the experiment station, in the meantime eulogizing the memory of Senator Justin S. Morrill of Vermont, who was the father of the agricultural college, being the author of the Act of 1862 providing for the establishment and support of such colleges in each State—the Act which guaranteed "the liberal and practical education of the industrial classes." Growing out of these colleges came the experiment station, "the source of knowledge and inspiration for the whole organization. These stations now extend over the civilized world. Behind them lie the writings and influence of Liebig. This great investigator's labors mark an epoch in the history of agriculture. Largely because of his guiding thought 500 experiment stations are now distributed through forty countries and colonies. The first duty of the station is to teach, by a practical study of experiments, the indispensable principles that are necessary to a profitable explanation of agriculture, and to give the student the benefit of an application of these principles. The Hatch bill, passed in 1887, was the beginning of the new era upon which the experiment stations entered at that time. Up to that time the independent institutions had occupied toward the farmer the same position that an expert chemist does toward the manufacturer. In brief, the real problem of the station is not to put a mass of information, however valuable, into the hands of the farmer, but its object is to strengthen his grasp upon principles and his ability to apply them. The station worker, then, must have a thorough scientific training for the power it imparts. The central idea of the station is research; that of the college, education. The station is doing its proper work when it investigates, even abstractly, and thus adds to the sum of education."

From this the speaker went on to exploit, in conclusion, the principles underlying education in general and an agricultural education in particular.

Agricultural Chemistry.—Prof. R. C. Kedzie of the Agricultural College of Michigan, President of the Association of Official Chemists, delivered his annual address and began by speaking of the late improvements in chemistry since the day, not fifty years ago, when Liebig, along with his very wise and prophetic utterances, also took occasion to point out the folly of attempting to make sugar from beets and illuminating gas from coal. The aged professor interlarded much humor with his solids. Speaking of the difference in soil and climate between California and the East, he said: "Whatever the physical causes, we find ourselves in the midst of many sharp contrasts with the conditions prevailing in the East. A witty friend in southern California described the contrast between the East and West: 'In the East you sell the soil, and the water and climate go with the land. Here, we sell the water and climate and throw in the land.'"

Referring to the many frauds and adulterants, and speaking particularly of butter, he won a laugh with this:

"Notice—Lactobutu, to convert ten pounds of rancid butter and five pounds of milk into fifteen pounds of good butter; the material and information for $5. Address ——, Chicago.

"Some may say that a man who does not know that five pounds of milk cannot be converted into five pounds of butter by any chemicals or manipulation, ought to invest $5 to buy wisdom much needed. But in olden times, of ten virgins five were wise and five were otherwise, and, if observation is not misleading, the proportion of the first class in the human family is not largely increased in nineteen centuries."

In conclusion, in speaking of the adulterants of flour, he said: "Another adulterant for wheat flour requires only a brief notice, for it can only be short-lived. This material is prepared and shipped in some quantity from Greensboro, N. C., under the name of Mineraline. It is nothing but ground rock of the felspathic class, and its food value nil. Yet the party making this stuff seems to find quite a market for it. A friend in Greensboro one year wrote me that this party had an order for 150 tons of Mineraline to be shipped to Tennessee to mix with flour, and was shipping car lots to Northeastern cities for the same purpose. In olden times the question arose: 'If a son ask his father for bread, will he give him a stone?' This question seems to have found an affirmative answer in North Carolina."

The Paris Exposition.—A report of the committee on collective station exhibit at the Paris Exposition was read by President Armsby. Space has been secured for a booth 12x57 feet and active correspondence with the stations carried on to secure contributions. A generous response has been received and the cordial support of the Secretary of Agriculture had helped on the work. The exhibit is to be made by the stations only and not by the colleges. It will illustrate the experiment station plans as a whole, and the contributions are to be prepared at the cost of the individual stations making them, while the transportation, installation and care will be at the expense of the Department of Agriculture. The exhibit will be of a technical character, appealing to the expert rather than to popular interest, but it will be made as decorative as possible.

Teaching Botany.—Professor Louis H. Pammel, Iowa, chairman of the section of botany and horticulture, read a report on the methods of teaching these subjects: "There are now engaged in the line of botany and biology sixty-one professors and nineteen assistants. In horticulture there are forty-nine professors and twenty-one assistants. During the past year there have been published by these workers a vast amount of valuable literature. It is a difficult thing to define the duties of the college and station botanist or those of the station horticulturist or college professor of horticulture, since the two lines of work are intimately associated, and in many cases the botanists are doing work that belongs to the horticulturist, while, on the other hand, some horticulturists are doing work that is along the line of pure botany. It must be remembered, however, that different institutions must meet different requirements. In some cases the professors of botany are devoting their time to more practical considerations, and hence are compelled to take up lines of work that more properly belong to the field of horticulture. In many cases there seems to be a lack of co-operation between different departmental investigations. It would seem highly desirable that more co-operative work should be undertaken, and that in this co-operative work the experiments should be planned by the respective departments and carried out according to a well-defined plan. The number of students taking post-graduate work in the different institutions is comparatively small. Twenty-eight are pursuing post-graduate work in botany in thirty institutions from which replies were received. Of the thirty-nine replies from botanists it appears that there are 2234 students pursuing botany in the land-grant colleges. About one-half of these intend to make use of it in a practical way, either in instruction or in its application to agriculture and horticulture.

The number of students taking work in horticulture, from replies received, is 1006."

Honors to the Memory of Morrill.—A eulogy of the late Senator Justin S. Morrill was delivered by Matthew H. Buckham of Vermont. He reviewed the life of the venerable legislator and particularly noted the achievements in legislation which endear Morrill so greatly to scientists. He said in part: "It is sometimes said that democracies produce but few great men, and that they do not love the few they do produce. It might be said in reply that democracies do not need the same kind of great men that other forms of society need—men who tower above the rest of the people and organize and mobilize the mass—because the high average of merit that democracy fosters is a better guarantee of social well being than the phenomenal excellence of a few outstanding men. But we may challenge this statement. There are men after the pattern of John Bright and Washington and Lincoln, who have the common virtues of the people carried to the highest pitch, and by virtue of that eminence in degree rather than of any distinction in kind are the natural and acknowledged and trusted leaders of the nation. Of this class was Senator Morrill. The incidents of his early life have been told often. He had the inestimable advantage of being born in the country. He was the son, the grandson and the brother of blacksmiths. With little schooling he gained knowledge by the reading of a few good books and by deep thinking. He was not the man to seek the votes of his fellows, and yet he was sent to Congress and kept there longer than has been any man in the whole existence of our Government. He represented Vermont as its typical man. The remarkable thing in his career is the passing of the small storekeeper into a statesman of national breadth and cosmopolitan ideas."

Prof. Buckham said that Senator Morrill was ever as broad as the Union and knew no section. He was the most persistent advocate of a national architecture, and to him was due more than any other man the adornment of the seat of government by great public buildings. Morrill's life had many lessons for young men. First of all it taught that success in life did not depend so much on having great opportunities as on making the most of the opportunities presented. Further than that, moral qualities counted for more than intellectual in the dynamics of life. The most significant lesson of Morrill's life to young men looking forward to any form of public service was that he was the truest representative of those who represented the best elements of the people. On the truth of this proposition depended all the best hope of popular government. Buckham then offered resolutions, which were adopted by a standing vote.

Agricultural Education.—Professor W. M. Liggett, dean of the Minnesota Agricultural College, read a paper on "Agricultural Education." He reviewed the present systems in the colleges and spoke hopefully of the future. In part he said: "Our agricultural work is being clearly divided into two classes: The principal work is teaching large numbers of young men and young women how to be better farmers and farm home makers and intelligent citizens in a country of high civilization. The second part of the work, that of educating agricultural scientists, is necessary that we may succeed in the first and that we may have a science of agriculture which shall be disseminated by all available means to the farmers who cannot attend an agricultural school.

"It is not to be expected, nor is it desirable, that all the graduates of these schools should stay on the farm. Some of them are unfitted by bent of nature for farmers, and for such it is a distasteful calling, the calling is discredited and the individual is hampered by an uncongenial employment. What schools of agriculture can do to check the tendency cityward is to present the attractions of the country in new and favorable lights so that the substantial advantages of rural life will not suffer by comparison with the more brilliant, but illusive, attractions of the city.

"All the systems, including the country school, have in the past educated children away from the country, It is one of the missions of the school of agriculture to make the country home stand in its true relation to wholesome living, and to enable young people to decide fairly and intelligently between the country and the city.

"I look forward to the future of the schools of agriculture with a confidence which I believe is fully warranted by the success already achieved, and expect to see their influence steadily increase and widen until the effect of their good work becomes more and more apparent in the betterment of conditions on the American farm and the general uplifting of this the most important class of the world's workers."

Seed Testing.—An interesting paper written by A. J. Peters of Washington, D. C., was read. The author of the paper is in charge of pure-seed investigations of the Department of Agriculture. Various methods of testing seeds were suggested, and farmers were urged not to sacrifice quality to cheapness. Illustrations were given of the results of tests made with a sample of seed of Kentucky blue grass in which but 5% of the seed was of any real value, while another sample costing only three times as much, contained 85% of real value. Though seedsmen cannot guarantee a crop, the seedsman can guarantee the quality of the seed, and thus, the writer of the paper said, it was within the capability and duty of every honest seedsman to furnish honest seed. The tricks for the adulteration of seed, the paper said, were manifold, and as a general rule saving a little in the sowing means losing heavily in the harvest. He said that the only remedy for bad seeds was to demand from the dealers a guarantee of germination and the payment of a fair price for such a quality of seeds. Cheap seeds were poor bargains, but, strange to say, there was a demand for them that forced the dealers to keep them.

Adulterations.—In the chemist's section perhaps the most interesting topic in the discussions was "Adulteration as a Hindrance to the Effectiveness of Experimental Work Among the Farmers." The trouble, as set forth in the paper presented by the veteran chemist, R. C. Kedzie, is that whereas the experimenter has at his command absolutely pure materials, the farmer, when given the recipes, is often the victim of adulterations, which he buys of his nearest druggist and which not alone render nugatory the remedies intended, but often do great harm. The result of this is that faith in the work of the station professors is shaken and the farmers, who are only beginning to appreciate the book-learnin' agriculturists, are discouraged and inclined to plod along in the old way. To the truth of this condition of affairs, W. H. Wiley, chief chemist at Washington, D. C., bore eloquent testimony. His particular task has been for years the study of the composition and adulteration of foods, chemicals and compounds. He said: "Very few are aware of the great extent to which adulteration exists, and the object of our labors is to protect the public against frauds and to secure an honest market for an honest article." Cases were mentioned in which substitutes were made of the most deleterious articles masquerading under the names and having all the appearance, taste and smell of the legitimate.

Grade Stock for Dairy Purposes.—Prof. C. D. Smith of Michigan treated of the possibilities of developing high-class dairy cows from grade stock of the range type. He detailed the results of an experiment conducted on a considerable scale last year that tended to show the feasibility of his proposition. In summing up the matter Prof. Smith said: "I do not mean to claim that scrub cows can be made to produce milk and butter equal in amount to that of thoroughbred dairy stock, but it is my contention that persistent, constant and scientific feeding will tend very largely to augment the usefulness, in a dairy sense, of the grade type of range stock. The herd under our supervision at the Michigan Experiment Station averaged slightly over 250 pounds of butter per head, while sixteen head averaged more than 300 pounds each."

Finishing Range Stock.—Prof. H. T. French of Idaho gave a brief paper on "Finishing Range Cattle in the Stall." He outlined the conditions which obtained in the stock business in Idaho, giving special attention to the necessity for the adoption of some adequate method of finishing beef cattle for market. He said: "During the last few years the sheep of Idaho have increased in numbers to such an extent that it is impossible to fatten and prepare beef for the market on the bunch grass ranges, except during a very limited period of the year. So the problem of how to finish their beef steers is one of the most pressing now before the cattle raisers of that section." Prof. French's investigations have made him an advocate of the stall-feeding scheme, even in the case of range cattle. He claimed that cattle handled in that way put on flesh rapidly and grow quite docile after a week or two of confinement, in spite of the fact that, after roping them at the outset, the cowboys frequently were obliged to use a windlass to get the animals into their stalls. By feeding the ordinary mixed ration minus corn, the steers subjected to confinement gained 4.20 pounds daily during the period of preparation, according to his observations.

Teaching Methods.—Professor Harry Gwinner of the Agricultural College of Maryland read a paper on "Teaching Methods." "What constitutes a successful teacher," he said, "has always been a mystery to me. We are not justified in meeting a class without having previously prepared the assigned subject, no matter how well up in the subject we are. Not only must a teacher, who is worthy to be called one, have great intellectual sympathy with those he instructs, but he must have such a love for humanity that he will allow his intellectual exertion to go forth to the world through his students."

The Agricultural Engineer.—In his paper on "The Agricultural Engineer," William T. Magruder, M.E., professor of mechanical engineering, Ohio State University, said: "The history of technical education in this country is the history of development by specialization and by differentiation. In the present century our engineering colleges are but repeating the same process of natural differentiation by which the more modern faculties of the European university arose out of the primitive university. Up to the beginning of this century all engineers were self-taught. The first two students to be granted the distinction of being called engineer were graduated in 1802 from the military academy at West Point. In the next twenty-five years out of 500 men who were graduated there fifty-seven were civil engineers. The schools of engineering of Union, Harvard, Yale and Michigan followed. The mighty forces are still at work which brought about this differentiation. They are still potential and active and are but following the law of supply and demand. The demand is arising for competent men to invent, construct, care for and operate our farm machinery."

Teaching of Machine Design.—In speaking of "The Teaching of Machine Design," John T. Faig of Kentucky said: "A knowledge of the elements of machine design is fundamental to the training of the twentieth century engineer. Whatever may be the future professional work of the student occasions will arise when a thorough knowledge of the principles of design is of vital importance. No collegiate work develops to a greater extent the latent mechanical instinct of the student or cultivates to better purpose that indefinable but all-important quality called judgment. Since the object of an engineering education should be to give the man a firm basis on which to build up an accurate professional knowledge of the special work he is to follow, no course of instruction can be outlined that will make a man proficient in every line of study that he may afterward attempt. The main principles of machine design are eternal, whether a man is called on to design sewing machines or pumping engines."

Special Work in Engineering.—In discussing "Some Objections to Early Differentiation of Engineering Courses," Professor J. C. Nagle of the Agricultural and Mechanical College of Texas said: "With the existing multiplicity of engineering applications, no man now living can cover the whole field of engineering science. But underlying all lines of engineering applications are certain common principles that require practically the same treatment in one branch as in another, and the extent of this common ground is much greater than is generally assumed to be the case. When we consider that it was only in 1835 that the first graduate civil engineers were sent out from an American institution we can see by reference to the manifold branches of engineering now practiced, how wonderfully rapid has been the growth of the constructive side of industrial development. The chief trouble with engineering graduates is that they all want to begin as chief engineers."

Reception by the State Floral Society.—The delegates were the guests of the California State Floral Society at a reception held from 3 to 6 o'clock on Friday in the Occidental Hotel. The rooms had for the occasion been transformed into a fairyland of rare and beautiful flowers. Prof. Wickson of the University of California is the president of this society, and Prof. Emory Smith of Stanford University is vice-president. The arrangement of the reception was under the immediate charge of the following committee: Mrs. L. O. Hodgkins, Mrs. Austin Sperry, Mrs. Helen Cross, John Hinkle and John Henderson. A number of the members of the society assisted the committee in the arrangement of the floral display and the reception of the guests. The members of the association marveled at what was shown them in the floral line. They were lavish in their praise of the beautiful flowers, expressing great curiosity and pleasure at the many specimens they had never before seen. They were all interested in examining the plants and asking questions, and the afternoon was most enjoyably spent. The floral society placed a beautiful and extensive exhibition before their guests, and the latter were profuse in expressing their appreciation of the courtesy shown them and the pleasure and benefit that they had derived from it.

The New Officers.—New officers were chosen on the last day to direct affairs for the ensuing year. California was honored by the appointment of Prof. E. W. Hilgard of the University of California to the first vice-presidency. Prof. Hilgard was not present at any of the sessions, as he was ill at his home. The following officers were elected: President, J. E. Stubbs, president of the University of Nevada; first vice-president, Prof. E. W. Hilgard of the University of California; second vice-president, Prof. J. M. Stone of Mississippi; third vice-president, Prof. E. E. Smiley of the University of Wyoming; fourth vice-president, Prof. M. H. Buckham of the University of Vermont, fifth vice-president, Prof. M. A. Scovell, director of the Kentucky Experiment Station; executive committee—H. H. Goodell, president of Massachusetts Agricultural College, chairman; W. M. Liggett, dean of the Minnesota Agricultural College, J. H. Washburn of Rhode Island and Alexis Cope of Ohio; secretary and treasurer, Prof. E. B. Voorhees, director of the New Jersey Experiment Station; bibliographer, Prof. A. C. True, director of office experiment stations, Department of Agriculture.

Benefits of the Meeting to California.—Prof. J. E. Stubbs, who was elected president of the associa-

tion, in speaking to a reporter of the manner in which California will be benefited by the inspection that will be made by the delegates, said: "There are two very decided ways in which this State will reap a benefit. First let me say that every man who has visited California as a member of this association will be talking and writing about the State continually for the next six months. This will mean extensive advertising for California in every State in the Union. Next when you consider the influence of the members of the association it is easy to see where the benefit will come in. All of them are either presidents of agricultural colleges or else directors of experiment stations. As such they wield a wide influence, for they are in close touch with three-fourths of the people of this country. They are frequently appealed to for information regarding the interests of the different States and the best place for people to settle. As the heads of colleges they will direct here many young men who will make California their home. The influx of young men who come here to engage in agricultural pursuits will mean the gradual breaking up of your large ranches, which, I think, will benefit the State, for where the farms are smaller the demand for transportation makes better railway facilities, and this in itself means the opening and upbuilding of any State. As a result of the trip of the association to this State many young men, who are now in agricultural colleges, will be persuaded to come direct to California to settle. The delegates will be able to benefit California in the matter of appropriations. They will see the many ways in which the science of agriculture and botany and horticulture can be advanced by this State having larger appropriations, and with the association behind it any demand that the State may make Congress will not be long in granting."

ENTOMOLOGICAL.

Ants and How to Get Rid of Them.

By Prof. A. J. Cook of Claremont, Los Angeles county, in the American Bee Journal.

These little insects have been famous in prose and poetry all down the ages. It is not strange that the bee keeper should wish to know more of the ants. Next to bees—and perhaps we do not need to make this exception—the ant certainly stands at the head of the insect world, as does man at the head of the vertebrate branch.

Social Insects.—Again, ants are quite like bees in the economy of their society. The bee keeper is also interested in the fact that the ant is quick to discover honey dew and such insects as secrete it. The ant also becomes sometimes the enemy of the bee keeper in that it enters the hive and causes no little disturbance. It is even reported that the ants sometimes destroy the queen bee, though I have never had satisfactory proof that such is positively true. While it may happen, I doubt if it is ever a common enough occurrence to cause alarm or even disturbance.

The ant, like the bees, many of the wasps and the white ants (which belong to a different order of insects) are truly social. They live in large colonies and work together—each for the good of all. They live for the most part in the ground, though some of the boring ants live in the holes which they bore in trees. Sometimes they fairly tunnel the trees, cutting them so extensively that they are honeycombed. I have never seen trees bored by any insects more thoroughly than by ants. Even the white ants of tropical regions do not do their work more perfectly than do some of the true ants which we are now considering. In every formicary (which name is used to designate a colony) there may be found not only the queen, male and worker, but also soldier ants, which are the protectors of the colony.

The ant belongs to the family formicidæ, hence we understand why a colony is called a formicary. In the winter only worker ants, queens and soldiers are found in the nest. As with bees, when spring comes, drones and young queens are reared. These, unlike the workers and soldiers, have wings, and in spring or early summer fly forth, often in great numbers, to mate. The drones or males die at once after mating, as do the drone bees, but the queen is taken possession of by workers, ready to emigrate from the old home and form a new one, and is conducted into some subterranean retreat, and thus a new colony is formed. The first thing the workers do is to bite the queen ant's wings off, so she must perforce stay at home. We see then that the bee keeper has a precedent set him by the ants in favor of clipping the queen's wing.

Food of Ants.—The food of ants is both insectivorous and vegetable. We often see them carrying insects to their nests, and, as every one knows, seeds form quite a prominent part of their diet. Indeed, the agricultural ant of Texas clears the ground, sows the seed and raises its own grain. These ants also mound about the entrance to their tunnels on low ground to keep out the water. In case water enters and their stores of grain are wet, they carry it out to dry that it may not injure by fermentation. Thus we see that the ant even seems ahead of bees in its functional development.

Ants also make slaves of other ants, and some have carried this on so long and so generally that they have lost the power to care for themselves, except as they secure these slaves. Some ants bridge or tunnel streams, and it is authentically reported that in India, where some leaf-eating ants do great damage, they practice division of labor. They work by night, and some ants go up the trees, cut off the leaves, while other ants carry these latter to the nests.

In Colorado there is a strange development of some of the ants into storehouse forms. Each ant is little more than stomach and legs, and always attaches to the rock in its cave home, where it receives honey dew brought in by the other ants, and so is a sort of honey comb for storing this nectar. As the other ants want this honey they receive it from the storehouse ants, much as we see bees yielding up honey to others of the colony. The Indians use these for dessert, manipulating the ants much as we do grapes, as we use them for a like purpose.

Ants and Honey Dew.—I stated before that ants often show us the presence of honey dew, and so of plant or scale lice which produce it. Indeed, it is rare to see ants going up or down trees, bushes or other plants, where, upon examination, we will not find plant lice or scale insects if we carefully look for them. It is probable that the insects secrete the honey dew to attract the ants, bees and wasps, and thus protect the honey-dew secreting insects from birds. The birds will not come near the plant lice or scale insects when guarded by these bees, wasps, etc. The ants have learned so well the good office of plant lice that they frequently keep the plant lice in their homes, feeding and caring for them that they may receive this nectar which the plant lice secrete. When disturbed, the ants will frequently carry out the plant lice before they do their own brood.

I have stated above that the ants frequently enter the hives and greatly annoy the bees. Every bee keeper has had many cases of such interference. In some sections of the country the hives are set high from the ground to prevent this intrusion of the ants. I have had reports from the Southern States that the ants occasionally destroy the queen bee, which, as suggested above, may occasionally be true, but I think there may be some doubt about it.

How to Repel Ants.—Ants are often a serious annoyance on our lawns, and also by getting into the house, where, from their small size, they are able to seek out almost every article of food. It is not difficult to prevent such intrusion. In case of disturbance on our lawns, if we search out the anthills we may easily destroy the ants by the use of bisulphide of carbon. By the use of a crowbar or other rod (wood or iron) we make a hole into the anthill, reaching to the bottom, which the softer ground enables us easily to find or determine. We now pour in a teacupful or so of bisulphide of carbon, cover quickly with clay, and compact this so as to prevent the poison from passing off. The liquid quickly vaporizes, and, being held in the nest, destroys all the ants that are in the tunnels. This should be done when the most of the ants are in the nest.

I have found the best substances to repel ants from the house to be corrosive sublimate and buhach, or insect powder. The corrosive sublimate may be brushed along the floor where the ants enter, or strings may be dipped into it—carpet rags do well—and laid along where they will obstruct the ants' path. The ants seem so averse to this substance that they leave at once. Dusting with the buhach also clears them out, but the treatment may have to be repeated every week or two. We have been troubled not a little with ants in California, but have found the above methods very efficient in ridding our houses of this pest.

HORTICULTURE.

The Northern Prune Crop.

The dimensions of the coming prune crop in Oregon and Washington are of much interest in this State. The *Oregon Agriculturist* of Portland outlines the facts as follows: Although the prune crop of Oregon is the nearest to a failure this year that it has ever been, there will from present indications be more prunes than were expected a few weeks ago.

In Douglas county there is a pretty certain prospect for a crop of 1,500,000 pounds of cured prunes. No other county will be in the same class as Douglas, although better average yields will be obtained in Jackson and Josephine counties, whose aggregate crop of cured prunes should exceed 500,000 pounds.

In the Willamette valley there are about 15,000 acres of prune orchards, nearly all the trees of which are of bearing age. In a general way it may be said that the prune crop is a failure throughout the valley. There are, however, exceptions to this rule. In many places Silver prunes promise a pretty good crop. The fine Italian prune orchard of Mr. Z. T. Davis at Dundee is said to be well loaded with fruit, and there may be others in the same locality of which this is true. The Italian prune orchard of the Corvallis & Benton County Prune Co. at Granger promises a yield of 4000 to 5000 bushels of fresh fruit. In the vicinity of Dallas a number of the Italian prune orchards are said to promise one-fourth of a crop. In the greater part of the valley a careful examination of the trees shows that there are a few prunes on almost every tree, from 50 to 200. In some portions of the valley French prune trees are carrying one-fourth of a crop and in other portions no fruit at all. If the prunes now on the trees remain fairly well, the output of cured prunes for the Willamette valley will probably be between 2,000,000 and 3,000,000 pounds.

Of the prunes grown in the Columbia river counties, a large proportion will probably be shipped fresh. In Clarke county, Washington, the prune crop is in about the same condition as in the Willamette valley. There are a few small young orchards which promise almost a full crop, and there are larger orchards which show from one-fourth to one-half a crop, while the bulk of the orchards are either without fruit or only show a few prunes on the trees. This is probably true in a general way of all western Washington.

From eastern Oregon and Washington and northern Idaho the reports are so varied in character that there is evidently a great diversity of prospects, although in but few cases is the outlook really favorable. There will probably be but few prunes in that region this year, and most of those grown will be apt to be shipped fresh.

In southern Idaho, where there are several thousand acres of Italian prune orchards of bearing age, the reports indicate on an average one-third of a crop. Probably one-half or more of the crop will be sold fresh.

The output of the cured prune crop for Oregon, Washington and Idaho, taken as a whole, will probably be about one-third as large as last year.

Frost and Peach Blossoms.

To the Editor:—In your issue a few numbers back the Pacific Rural Press requested information concerning observations as to the immunity of some varieties of peach blooms from frost over others. Covering a period of a few years I have observed very closely the effect of frost on the peach tree, also on the blooms and fruit. I do not think that the size of the bloom cuts much figure, however, but that the length of the stamens does. If peach growers will notice next spring, I think they will find that stamens of some varieties protrude through the petals many days before the bloom is open. If frost comes when the bloom is in this condition, unless very light, I do not think your peach crop will make you very rich. The blooms with short stamens, though equally as far along, will escape. The Early Crawford is one that especially got frosted for me. I had a seedling that escaped three times successively, when Charlotte, Early Crawford, Early June and Golden Cling were almost total failures—though the seedling bloomed at the same time.

I also noticed that many peaches that set would hang on for two months, looking like dwarf peaches, while on the same limb would be nice green peaches of three times the size. The small ones never matured; they would drop before the others were ripe.

Jefferson, Or. J. W. H.

Fall Sown Cabbage for Early Spring Use.

It will interest California cabbage growers to see what the Oregon Experiment Station says about cabbage growing in that State:

A very rich soil, plentifully manured, is essential for the production of tender, succulent cabbage. The ground should be plowed very deep. By so doing the lower portion is turned up to the action of the weather, and substances in the soil previously inert are thus subjected to a fresh decomposing action, which makes them available for the nourishment of plants.

In order to have heads the first or second week in May, the seed should be sown the first week in August, on properly prepared beds, choosing a situation, if possible, where they will be shaded from the midday sun.

Never permit the soil to become over-dry at any time, carefully watering every evening, but avoid giving in such quantities that the water will run on the surface, as this has the tendency to cause the surface of the soil to become caked, thus checking the growth of the plants.

The following varieties are excellent for fall sowing: Extra Early Express, Early Etampes and Early Winningstadt. These varieties may be sown at the same time, each variety coming to maturity in the order named. The plants should be set out the last of September or the beginning of October on the well drained soil. They will not thrive where water stands.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

HORTICULTURAL COMMISSIONER'S REPORT.—Niles *Herald*, July 7: County Horticultural Commissioner William Barry reports that his principal work has been collecting and distributing the internal parasites of the brown apricot scale. The total number handled was 360,000. In sixty orchards where he placed the parasites last year they have increased beyond expectations and satisfaction is expressed at the work done and the clean appearance of the orchards. No spraying has been done for some years. At Sunol the same satisfactory conditions exist. The parasites were collected from the prune orchard of W. H. Champion at Niles. Washington township has been fortunate in having a good apricot crop. Peaches are a good crop, French prunes fair to heavy. Cherries were a light crop throughout the district. Hay is an enormous crop and barley the heaviest for years.

Butte.

GOOD CROPS.—Oroville *Register*, July 6: Supervisor E. T. Reynolds said that the crops of grain were heavier about Chico and vicinity than had been expected. The hay crop was very good. Hay was selling from $6 to $7 per ton for the best grain hay, while hay that had been damaged by rain was quite cheap. The crops of fruit were fair, the peach crop being very good. The Chico cannery had put up 10,000 cases of apricots and would make a total pack of 50,000 cases of all kinds of fruit.

Colusa.

TO PREVENT WHEAT FROM SHELLING.—*Sun*, July 8: A few days ago we were informed that a farmer, having Proper wheat and being afraid of north winds blowing it out, ran a roller over it while in the stiff dough, and now runs a header over it the reverse way from the roller. The harvesting machinery will get all the wheat even if down in a tangled way, but all laying one way there is but little more trouble than with standing grain. Proper and other white wheats are more profitable, both on account of yield and price, than the standard Club, but the danger of shelling out is very great. In fact, it is not probable that any one has gathered a full crop on that account.

IRRIGATION ENTERPRISE.—*Sun*, July 8: Dr. Gray has installed an irrigation plant consisting of a 15 H. P. gasoline engine and a 5-inch Byron Jackson centrifugal pump. The water is taken from three wells sixty feet deep and furnish about 500 gallons a minute. The orchard has been laid out and large trenches made between the rows. The trench is filled and kept full for several hours. There are forty-five acres in the orchard and it will take ten days or two weeks to get over it. When thoroughly watered and the ground gets in condition for it, the land will be cultivated. The engine consumes about a gallon of gasoline an hour and Dr. Gray has 30,000 gallons of water for the cost of one gallon of gasoline, which is 20 cents.

Fresno.

FIRST SHIPMENT OF WATERMELONS.—Sanger *Herald*, July 8: Capt. N. G. Kittle is shipping two carloads of watermelons to coast points. This will doubtless be the first carload shipment of melons in California this season. He expects to ship about twelve carloads altogether.

SCARCITY OF TOMATOES.—Sanger *Herald*, July 8: Tomatoes will be very scarce, owing to the vines being destroyed by thrips or some other insects which devour the foliage and hot sun finishes the job. The Chinese vegetable gardeners on Kings river report that they never had such poor luck with their vines before.

AVERAGE WHEAT YIELD.—Sanger *Herald*, July 1: Wheat is coming into the local warehouses slower than usual at this season of the year, notwithstanding the combined harvesters are cutting and sacking the grain at a lively rate and the yield is an average one. Most of the fields hereabout will average three to six sacks of wheat to the acre. A small field near Centerville averaged twelve sacks to the acre.

ORANGES DROPPING.—Sanger *Herald*, July 8: Orange growers on Kings river report that the young fruit is dropping off to an alarming extent, so that not more than half a crop may be expected. Last year fifty carloads of oranges were shipped from this station, but conservative fruit men estimate the coming crop at less than thirty cars. Many trees which bore hundreds of oranges last year are practically fruitless this year, especially the Navel and Seedling varieties. Lemons are almost a total failure. It is believed that the spring frosts caused the damage. What fruit is left on the trees will be exceptionally large.

Glenn.

GRAIN FIRE.—Willows *Journal*, July 7: A fire in the grain field of C. E. King destroyed 400 acres of barley and wheat. The barley would have yielded forty sacks to the acre and the wheat fifteen.

Kings.

CANNING APRICOTS.—Hanford *Journal*: The Fontana cannery has closed its run on apricots. The employes will have a layoff until the 10th of July, when work will begin on Early Crawford peaches and will proceed steadily for quite a while. The cannery has put up about 450 tons of apricots this year, amounting to twenty carloads of cased goods.

Monterey.

BIG HAY CROP.—Castroville *Enterprise*: The amount of hay being cut is something stupendous, and the grain crops will be the best ever seen here. The threshing outfits promise to have a very profitable season's work.

DISTRICT FAIR.—Salinas *Index*, July 6: The board of directors of Agricultural District No. 7 Association met yesterday afternoon and organized by the election of Hon. J. D. Carr as president, J. B. Iverson vice-president and treasurer, and J. J. Kelly secretary. Committees were appointed as follows: On speed programme, C. Z. Hebert, T. J. Field and J. B. Iverson; executive, H. S. Ball, C. Z. Hebert and A. Widemann; premium list, J. A. Trescony, H. S. Ball and S. M. Matthews. The date for holding the annual fair was fixed from October 2 until October 7, inclusive.

Napa.

MAKING ALMOND OIL.—*Register*, July 7: Five people are busy at the cream of tartar works preparing the kernels of apricot and peach pits for shipment to San Francisco, there to be made into almond oil, which is used in making perfumes. The Napa institution is the second of its kind in the State, the other being located in Oakland. The pits are dumped into the "cracker" and pass through the machine twice. After going through the second course, the shells and kernels pass into a separator and then drop into a trough in which there is a liquid solution. This preparation separates the two, little elevators taking the broken shell one way and the kernels the other. The process of separating shell and kernel is an original idea of H. C. Kinsey. There are, however, a few shells that get mixed in with the kernels, and it is necessary to have girls go over the material and pick them out. The kernels, after passing through the solution, are spread on trays and placed in the sun to dry. They are then sacked and ready for shipment.

Orange.

APRICOT CANNING.—Anaheim *Gazette*, July 6: Thirteen thousand cans of apricots are being put up at the cannery daily. Last week the number of cans put up reached 52,000, which exceeded last year's pack of apricots by 12,000 cans. This year probably 150,000 cans of apricots will be prepared.

LARGE APRICOTS.—Santa Ana *Blade*, July 7: Capt. Huddy of El Toro, left at the office a box of Mammoth Royal apricots. Some of these apricots weighed four and one-half ounces each and are smooth and clear of spot or blemish, and of matchless flavor. The fruit was grown without irrigation and is a sample of 250 or 300 tons grown at El Toro this season in like manner.

Riverside.

NEW FRUIT COMPANY.—*Press*, July 8: Articles of incorporation have been filed for the La Mesa Packing Co., with a capital stock of $10,000. The incorporators are S. H. Herrick, L. C. Waite, M. L. Coleman, A. Haeberlin, P. D. Cover, C. F. Marcy, Priestley Hall and F. M. Dunbar.

San Bernardino.

SPLENDID YIELD OF APRICOTS.—Redlands *Facts*, July 6: W. C. Hargraves has Royal apricot trees which averaged 412 pounds of fruit. Royals sold this season as high as $25 per ton in this region. This would make a return of $5.15 per tree for the crop, or, with ninety trees to the acre, $463.50 per acre.

CREAMERY INDUSTRY.—Chino *Champion*, July 7: The Chino valley creamery is making all its milk into butter now, the price having gone up to 50 cents, at which it is more profitable than cheese. The association is receiving 7500 pounds of milk a day and Mgr. Steele says that as beet pulp comes in for feed the receipts will run up to 10,000 pounds. Of the present receipts Steele & Green deliver 3000 pounds daily. They are milking 170 cows.

San Diego.

CITRUS SHIPMENTS.—Escondido *Times*: Despite the dry season citrus shipments from this county for the year ending June 15, 1899, exceeded those of 1898, the number of cars being 786 and 716 respectively. This county furnishes 34% of the lemon shipments from the State and 4¼% of the oranges.

EXPERIENCE WITH APRICOTS.—*Union*, July 6: E. Owen, National City, has a fine crop of Royal apricots. He took the precaution to water them well last fall so the trees could store up energy to fill out the buds rather than wait to give the abundance of water after the fruit is set. The result is from his eleven trees he will realize $88.

IRRIGATION FOR OLIVES.—*Union*, July 6: Mr. Styring, Mission valley, being an extensive olive grower, gives an opinion that is valuable, based upon experience, and that the frequent failure in olives to "set" after a profusion of bloom is because they were not well watered in October and November so the buds could be well sustained by the vigor imparted by the heavy autumnal irrigation.

CATTLE BUSINESS.—National City *Record*, July 6: The cattle trade from Lower California to this county has been brought to a standstill by the enforcement of the custom-house rule prohibiting the importation from Mexico of cattle infested with ticks. As cattle on this side of the line are similarly affected, the San Diego Chamber of Commerce has taken the matter up and is working to have the rule suspended.

HORTICULTURISTS' MEETING.—*Union*, July 6: The quarterly convention of the San Diego Horticultural Society will be held at Escondido on July 18th, when the following programme will be given: Music; invocation; address of welcome by H. W. Cottle, Escondido; response by Pres. F. W. Barnes, Pacific Beach; reading of minutes; report of committees; "Geology in Its Relation to Plant Life," Miss Dr. Searing, Escondido; "The Bee Industry and Its Relation to Horticulture," J. H. Hambaugh, County Bee Inspector; "General Gardening," A. E. Dixon, Point Loma; "The Deciduous Fruit Outlook," Commissioner F. Austin, Fallbrook; "Semi-Tropical Fruits," W. H. Sheldon, San Diego; "Dairying in Southern California," J. Judson, San Pasqual; letters on "Fig Curing and Marketing" to be read by secretary; "Citrus Fruit Foes and Friends," Commissioner G. P. Hall; "The Lemon," R. H. Young, San Diego; "The Apple," Chester Gunn, Julian; music, question box and adjournment.

San Joaquin.

WATER COMPANY INCORPORATED.—*Mail*, July 6: Articles of incorporation of the Stanislaus Water Company have been filed. The company has purchased the Stanislaus and San Joaquin Irrigation Company's system. The directors are Alvinza Hayward of San Mateo, Charles F. Tulloch of Knight's Ferry, A. G. Lane of San Francisco, R. R. Bigelow of San Francisco and H. G. Stevenson of Menlo Park.

ASPARAGUS INDUSTRY.—Stockton *Mail*, July 2: San Joaquin county possesses an asparagus cannery said to be the largest in the world. Its product goes to all civilized countries, but mainly to England, Germany and France. The cannery is located two miles from Terminous. So great has been the demand for the product that a branch institution is now being built three miles from the main one, and it will be ready for next year's crop. This season the asparagus from 30,000 acres of rich land on Bouldin island was put up and sent away. A new product has just been marketed. It is called "cream of asparagus." The asparagus is grown almost exclusively by Chinese, who rent the land and are under contract, through their boss, to sell all produce to the cannery after March 15th—the date when canning begins. The rental is 40% of the receipts from the land. E. Stoltz is said to have stated that last year his rental on fifteen acres amounted to $1700. It takes three years, however, to put the land into profitable condition, that period being required for the plants to mature.

Santa Clara.

AGRICULTURAL PARK SOLD.—San Jose *Mercury*, July 7: Agricultural Park, comprising 76.75 acres, including the Floral Carnival Pavilion, Bicycle Park, grand stands, and other improvements, was sold by Sheriff Langford to satisfy a judgement in favor of W. C. Andrews. The property was struck off to Mr. Andrews for $9599.70, the amount of his judgment and costs. The action is understood to have been a friendly one. The society as organized by its originators had no power to sell or mortgage any of its reality. It is stated by the present directors that they will allow Mr. Andrews to perfect his title to the property, and they will then organize a new society and purchase the property from him at a price which will reimburse him for the money he has expended, with a fair rate of interest, and they will then mortgage or sell enough of the property to pay off all other claims. The property with its improvements is worth about $150,000.

Shasta.

IRRIGATION NEWS.—Anderson *Valley News*: Water is now flowing on several orchards, being furnished by the Belle Vue Irrigation Co.'s plant. Two large boilers and a 70 H. P. engine furnish the power. The works are located on the bank of the Sacramento river, about two miles above Anderson, and the water is pumped from the river by an 8-inch centrifugal pump. A ditch conveys the water from the reservoir to the orchards. The large orchard of the Ludwig Fruit Co. is also being irrigated, the water being pumped from the river by the pumping plant of the company, which was put in last season. At the Damon orchard water was turned into the ditches this week. The water for this place is furnished from the Igo ditch and is conveyed through pipe to a reservoir, from whence it is taken to all parts of the ranch.

Solano.

LARGE BARLEY YIELD.—Suisun *Republican*, July 7: A remarkably large crop of barley has been harvested on the ranch of H. Hartman near Rio Vista. Seventy-one sacks to the acre was the average and Solano county has again broken the record for large crops. It is reported that on all the islands in that vicinity the barley crop will average forty sacks to the acre, and that wheat will run about twenty-five sacks.

HEAVY GRAIN CROPS.—Dixon *Tribune*, July 7: It has been many seasons since our farmers have been blessed with as abundant crops as this year. To facilitate gathering it has been "good threshing weather." Runs of from 400 to 800 sacks per day are reported, which is above the average. Almost 600,000 grain bags have been sold. Reports of volunteer wheat yielding eighteen sacks to the acre are at hand and fields of summer-fallow have turned off more than twenty sacks per acre. Several large fields of barley are credited with thirty sacks to the acre and many are yielding twenty. For several years past the tendency has been to overestimate the yield and the return of several hundred empty bags after harvest was a common occurrence. This year the conditions are reversed and the yield in nearly every instance is exceeding the estimate.

Sonoma.

SILK MILL CLOSED.—Petaluma *Courier*, July 5: The silk factory closed down Saturday for the usual summer vacation and will reopen on the 24th inst. Since August of last year the mill has been running on full time, with a full complement of employes.

MUCH GRAIN, LITTLE HAY.—*Sonoma County Farmer*, July 8: Farmers are reserving for grain every acre that promises a fair yield, and it is extremely doubtful if there will be one-third as much hay to sell as last year.

SHIPPING INTELLIGENCE.—Petaluma *Argus*, July 8: *To the Honorable the Board of Trustees of the City of Petaluma*—GENTLEMEN: Your committee, to whom was referred the matter of obtaining statistics of the shipping via Petaluma river for the year ending December 31, 1898, beg leave to report the following, which has been compiled from figures furnished by local business men from figures taken from their books: Wheat, 12,000 tons; barley, 4000; flour, 10,000; bran, shorts, middlings, 10,000; hay, 50,000; corn, 3000; potatoes, 6000; oats, 4000: dried fruits, 1000; green fruits, 2000; sugar beets, 250; wine, 200; wool, 400; onions, 100; hides, 245; mowers, 100; hay presses, 100; raw silk, 50; cheese, 40; incubators, brooders, etc., 50; leather, 50; hops, 25; sheep and hogs, 8000; horses, 5000; eggs, 1,100,000; poultry 6000 dozen. Respectfully submitted. F. K. Lippitt and Art S. Newburgh, committee. The report shows a decided increase over previous years. The hay trade last year was the greatest in the history of the river.

NEW GRAPE CRUSHER.—Santa Rosa *Press-Democrat*, July 8: Messrs. Philpot & Co., of the Windsor Foundry, are building ten large grape crushers for the California Wine Association, three of which will be used in this county. Each crusher requires 6 H. P. to operate it and has a capacity of 400 tons in six hours. This machine is J. S. Philpot's invention. Tests have resulted in its being pronounced ahead of anything of its kind in use.

ORANGE CLINGS DROPPING.—*Press-Democrat*, July 6: A letter from T. E. Barlow, Sebastopol, states that the crop of Orange Cling peaches, which was promising to be fair, is causing the fruit men much concern on account of the large number dropping. "Upon examination, we find the trees are covered with peaches with a large crack, reaching the entire length of one side, which causes the peach to shrivel and drop, and the worst part of it is that many of the cracked peaches show that the blight is still working, as they appear to be very fresh and the cracked peaches look as healthy otherwise as any on the tree. Our loss now is one-third of the crop and no telling when it will be greater."

Sutter.

GOOD GRAIN YIELD.—Yuba City *Farmer*, July 7: The harvest is well under way, and from various parts of the country come reports of good yields of grain, in most cases being better than was anticipated. Summer-fallow wheat is averaging from ten to fourteen sacks per acre and winter-sown from six to ten sacks. The quality is also good, the wheat weighing heavier than in the average season. Barley is also making a good yield and will soon be all harvested.

Tulare.

SIPPING LEMONS TO THE ORIENT.—Porterville *Enterprise*, July 7: C. W. Buswell has learned that all his fall shipments of lemons have been sent to Manila. Reports received regarding condition on arrival was that the lemons arrived in excellent shape, there being less than 10% decay. For the future Mr. Buswell is going to cure the lemons for that market and Hong Kong. The boxes must be of a special size and material as follows: The sides, tops and bottoms must be made of ¾-inch sugar pine. The size of the box is the same as the regular medium Messina box now in use. A special glazed paper must be used; the sizes must be 300's, 320's and 360's, the latter number preferable. The fruit which is packed can be fancy and choice together, which constitutes one grade, but all standard lemons are to be left out, which makes less work than packing for the home market. The trees should be irrigated well the forepart of the season, and not later than the 10th of August, when all irrigation should cease until the packing is over and this will make a firm shipper and good keeper.

Yolo.

DISTRICT FAIR.—Woodland *Mail*, July 4: The directors of Agricultural Association No. 40 met and elected C. R. Hoppin president and A. M. Britt vice-president. Messrs. Montgomery, Burns and Hoppin were appointed a committee to secure grounds and fix a date for the fair.

BIG FRUIT YIELD.—Dispatch from Woodland, July 6: The fruit crop of the Yolo orchard, the largest in the county, will be enormous this season, far exceeding the most sanguine expectations of two months ago. Two thousand hoxes of Tragedy prunes have been sold for Eastern shipment. The French prunes will not ripen before September. The apricot crop, amounting to nearly 400 tons, has nearly all been gathered. Three hundred tons were sold to the canneries. Ten thousand boxes of early peaches have been sold in the Eastern market. The peach product of the orchard will amount to about 800 tons. The almond crop will amount to at least 100 tons.

Yuba.

HOP INDUSTRY.—Wheatland *Four Corners*, July 8: The weather is favorable to hop growth. From present indications picking will not be general until about the 20th of August, though a few early yards will be ripe by the 10th. The framework of Durst's three new kilns is up. They are on the hopper style with very high, steep roofs. The top of the ventilators is nearly 75 feet from the ground. At Horstville a Sacramento man is at work on a contract to build new cooling rooms.

Horse Owners! Try GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

The Real Man With the Hoe.

We're tired of the drool and the drivel,
Lamentation, and mourning and woe,
Supercilious society's snivel
Daily fired at the man with the hoe!

Bipeds such as the painter has pictured,
And vast ink-shed has forced us to know,
May wear liv'ry of Gotham's "four hundred"
Full as oft as they're found with the hoe.

Crowns have circled slant brows of such creatures;
There are natures as bestial and low,
Demoniacs debasing God's features,
In ranks that heap scorn on the hoe.

Such a man! such a hoe! stirs your pity,
Hoe and man are so surely "No Go!"
But you'll find just such men in your city
Tho' they never set hand on a hoe.

The *real* man with the hoe isn't hunting
Sham sentiment, maudlin and slow,
He's the man with the true gun and bright hunting
Who goes when his country bids "Go!"

Boy in blue, he has ever been ready,
When Columbia has needed a man,
To stand in staunch ranks, firm and steady,
Or fire-tip fierce charge in War's van.

This world's one relentless rude scrimmage,
Mad mortals a-muck for "the dough;"
But when God planned a man in His image
He set him to work with the hoe.

Mother Earth can dispense with some classes,
Brush wielders, ink slingers may go;
But she can't spare that friend of the masses,
She must have the man with the hoe.

He's the braw boy Earth's backbone is built of,
From his stock sturdy Presidents grow;
Labor's King poets proudly may lilt of;
Hurrah! for the man with the hoe!

—Edward Berwick.

Disenchantment.

When Don Luis became aware of his granddaughter's decision, he was very much displeased, but yet it was, in the main, the surprise which irritated him. How was he to explain to himself this sudden wilful rupture which would put an end to the marriage arranged to the entire satisfaction of two families, and, above all, of the lovers themselves? What had passed between them? What had actuated this step on the part of the young girl? Considering her intelligence, goodness and discretion, thought the poor old man, undoubtedly it was a grave and sufficient cause. So the good gentleman, irritated by this turn of affairs, and spurred on by affection, determined to know the truth. Throwing aside the newspaper that he was holding in his hand, and confronting his daughter-in-law who had just given him the disagreeable news, he inquired:

"Is she in her room?"

"Yes, senor; finishing her toilette, so that we may go out for a walk in the air. Heard you ever the like?" replied the mother, with a expression of utter disgust.

"To walk—the same day that this scandal has occurred?"

"Just as you hear."

"Then I shall speak to her. Do you go first, tell her she may expect me, and leave us alone."

In a few moments and in a very bad humor, though without losing his outward calm, Don Luis entered the apartment of his granddaughter, where everything was extremely simple, but in which there was nothing great or small but revealed to the most casual observer the wealth of the family and the exquisite taste of the girl.

The walls were covered with a delicate tapestry, almost pure white, with tiny garlands of roses and buds running in slender lines from ceiling to floor, the furniture was upholstered with the same and the carpet very light in tone. On the mantel stood a clock of antique porcelain between two tall, slim Venetian glasses filled with chrysanthemums. The little accessories of toilet table were cutglass and ivory, bearing monogram and crest, and upon the table, beside a Sevres vase and an elegant workbox, there were three photographs, two recent ones of the parents of the young girl, and one, yellowed with time, of Dan Luis in the uniform of lieutenant general, his breast covered with crosses, and the medal of Africa.

The little senorita was seated on a low chair fastening the buckles of her shoes, when, observing the entrance of Don Luis, instantly sprung to her feet, darted to his side, and putting her arms about him, exclaimed with the utmost tenderness:

"Little grandfather, dearest, why hast thou climbed up here? I was just going to thy room. When do I ever go out without first going to give thee a kiss?"

The two faces, pressed close together in an affectionate embrace, were a marked contrast. The old man's still bore, amid its wrinkles, the traces of an arrogant youth, and the beautiful girl of twenty summers, kissing him tenderly, appeared eager to impart to him something of her own abundant life and freshness. But presently, Don Luis recollecting what had brought him to his grandchild's room, disengaged himself with gentle firmness, and endeavoring to assume a tone of great severity, though with little success, said confusedly:

"But what is this? What has happened? Thinkest thou men are puppies that thou canst play with? Dost know the scandal thou hast caused? Is it nothing that at this moment all Madrid is talking of us, and blaming thee, God knows how!"

"Do not be vexed with me, little grandfather."

"But to appear so fickle! With the house nearly ready, the presents made—and to break it in this manner. What are people going to think?"

"Oh, I have cause."

"What hast thou to complain of? Does it appear to thee that a young man of an age proportionate to thine, of good family, handsome, rich and disposed to marry thee, is a thing to be encountered every day? What has he done to thee? Who has broken, he or thou?"

"He has done nothing to me; and, as for the breaking, I have done it all."

"Sensible girl."

"What would'st thou, little grandfather? We may be intimate with persons for months, whole years, believing that we know them, and suddenly we find they have deceived us, and we knew them not at all. Better to learn the truth while there is yet time."

"But has he done anything ugly? Knowest thou anything dishonorable?"

"A little thing, which to me signifies much. Some people will say I have made myself ridiculous; I am satisfied that I have done right. But, come here; come, and do not quarrel with me till you know all."

She said this between smiles and tears, but with much earnestness; then drew an armchair near the chimney, where a couple of logs were crackling, made Don Luis accommodate himself therein, and one moment seating herself on his knees, the next pacing the floor, she spoke thus:

"Handsome, rich, of good family, all this is true; and moreover, I confess I loved him. And, nevertheless, I have broken with him for a little thing, for something which for many women would have significance and represent nothing—"

"But what? relate it."

"You know already that we have been in love for more than a year and a half. It all began soon after papa bought this house. From the windows of this room I could see all the Calle del Obelisco as far as the entrance of the Castellana. I watched for Manolo every morning at ten o'clock, behind these windows, and almost always, with the punctuality of the true lover, he arrived in a few minutes on horseback. I would see him appear where the boulevard crosses the Castellana, presently he would urge Lucero to a trot, and in a few minutes more he would be here."

"And what a handsome horse that is—a jewel!"

"Lucero would come with arched neck, his head drawn well in, and sensitive to the bridle, with forth dropping from his mouth, steps so airy that he seemed to spurn the ground from beneath his feet, and his tail erect and restless. It almost seemed as if the intelligent creature knew he was coming to bring me an hour of happiness, and hastened in order to please me. In the twinkling of an eye he arrived at the iron grating. Unless it was raining, I went down to the garden, as at that hour no one ever passed this way, and there by the gate was a little time of chatting with Manolo; and I always gave to Lucero a biscuit or a couple of lumps of sugar. You cannot conceive how well he knew, how he would turn his head from side to side, expectantly, until I stretched out my hand with the dainties through the bars of the gate. Of course the principal occupation was talking with Manolo, hearing pleasant nonsense, pretty speeches, making plans for the future—you can imagine it all, little grandfather. With the horse I occupied myself but a moment, but in the truth I loved him. I had a great tenderness for him; it was he who brought Manolo to me and bore him as though upon wings. When I lay down to sleep I used to think of the hour of our meeting, wishing that the day might be fair, so that I could go down into the garden; when at the window, my heart beat with expectation, my imagination pictured first of all to me the prancing of Lucero, his sudden appearance round the curve of the Castellana, his rapid trot clattering loudly on the ground, and then his waiting below, restive, with smoking flanks, and pawing the ground, down there by the rose bushes and hedges of the garden, which was where I would stand—"

"But why do you recall all this?"

"Was I truly in love with Manolo? With my hand upon my heart—so I believe. Above all, even more than handsome, well bred, loving and chivalrous, to me he seemed good, above reproach, a man of fine feelings."

"And then?"

"I have nearly finished. Ten or twelve days ago, one morning Manolo came on a different horse. Naturally, the change surprised me.

"'And Lucero?' I asked him.

"'He is sick.'

"'What ails him?'

"'I do not know; some trouble in one of his feet.'

"'Poor horse!'

"'Oh, we will cure it yet.'

"We spoke no more of it. In the days following I inquired for the horse, and it struck me that he evaded a reply. Finally last week his servant unfortunately came to bring me a letter, and, as he knew that I always bestowed upon him some little present, he asked to see me. The horse coming to my thoughts, I asked him:

"'How is Lucero?'

"The boy assumed a very singular expression, between sadness and stupidity, answered:

"'He will never eat again, I am thinking.'

"'Is he dead?'

"'Yes, senorita. Ah, if it had been no worse than to die, poor beast!' said he.

"'What has happened?'

"Upon this the servant, like one who fears having spoken too much, remained obstinately silent; I had to draw the words from him by force of cunning. Until I had promised to say nothing on the subject to Manolo, he was unwilling to relate what had happened. To be brief: He told me that the horse had sustained some injury to the hoof, the nature of which I do not know, save it was swollen and very sore. And here comes what is horrible and cruel. The veterinaries said to Manolo that for this there was no remedy, that the horse would remain very lame, if not perfectly useless, and Manolo, instead of allowing him to die in his stable, even though it cost him something—and how fortunate he should have counted himself that he could so easily bear the expense—instead even of granting him the mercy of a bullet, sold him, sold him to the Plaza de Toros! And thou knowest—"

"What brutality!" exclaimed Don Luis, unable to restrain himself.

"And what is worse, that was on Friday, then on Sunday I was present at the Corrida, and I saw the poor Lucero die in the arena, as they die there—I can say no more, little grandfather!"

At this point the young girl dried a tear which flowed perhaps both in pity for the dead horse, and bitterness for her shattered ideas, and continued saying:

"It is a pleasure for me to go sometimes to 'los toros,' for the excitement and the crowd, and to attire myself in the mantilla, but what Manolo has done is unspeakable. It was the horse which brought him to me, which I watched for and which I loved because he came flying! I have heard thee tell of thy great sorrow when thy horse was shot from under thee in the battle of San Pedro Abanto, and so," concluded the girl with extraordinary energy, "it seems impossible to me that this man can be good, and marry him I never will!"—Translated form the Spanish of Jacinto Octavio Picon.

She Got Even.

One day a smart young man got a long piece of ribbon paper out of a stock ticker and wrote a letter on it to his girl. As he wrote he rolled the paper up, so that the outside of the roll contained the closing remarks of the letter, which were:

"Of course, you will not repeat what I have told you in this letter about Helen. It was given to me in strictest confidence, and I wouldn't think of telling anyone except you."

To find out what this was, the girl was compelled to unwind the letter and wind it up again, starting at the end. But she could find nothing in it about Helen, although she read it twice very carefully, and looked along the back from one end to the other. And it was a most bothersome letter to read.

She brooded over the letter several days planning her revenge. At length she came to a decision. She got a large, square piece of cardboard and started her letter in the very center of it, writing in an ever-widening circle. Her very first sentence was: "Dear Jack, if you persevere in reading this letter you will find in it something you greatly wish to know. If you do not read it you will never know it." There was something he did wish to know, and only she could tell him, so he buckled down to it. At first he turned the paper around slowly as he read, and in a few minutes almost toppled over with dizziness. He rested and tried it again, but was compelled to stop, for his eyes burned and his head ached. After another rest he placed it on the floor, and stooping over, walked slowly around it, reading as he went. The first evening he was compelled to stop before he had half finished it, and before he had come to the desired information.

The following night he tackled it again, and in the course of an hour's work, as hard as any he had ever attempted, he come upon this sentence almost near the end: "This is what I wanted to tell you. Don't ever again try to be funny with me—I can get even with you every time."

The young man didn't finish the letter, but he vowed to himself that he never would try to be funny at her expense in the future.

The heights by great men reached and kept,
Were not attained by sudden flight,
But they, while their companions slept,
Were toiling upward in the night.

—Longfellow.

"A WET season is bad enough fer the farmers, but a dry one is wuss."

"That's right; an' it'd about use a fellow up if we'd have 'em both at the same time."

TOMMY—When I grow up I'm goin' to raise a beard.

Uncle—What for?

Tommy—So's I won't have so much face to wash.

"Now, my dear," said the teacher, "what is memory?"

The little one answered, after a moment's reflection: "It is the thing you forget with."

Freedom's Banner.

Oh, tenderly the haughty day
Fills his blue urn with fire!
One morn is in the mighty heaven,
And one is our desire.

The cannon booms from town to town,
Our pulses are not less,
The joy bells chime their tidings down,
Which children's voices bless.

For he that flung the broad, blue fold
O'ermantling land and sea
One-third part of the sky unrolled
For the banner of the free.

The men are ripe of Saxon kind
To build an equal state—
To take the statue from the mind
And make of duty fate.

* * * * * * * *

And henceforth there shall be no chain
Save underneath the sea.
The wires shall murmur through the main
Sweet songs of liberty.

The conscious stars accord above,
The waters wild below,
And under, through the cable wove,
Her fiery errands go.

For he that worketh high and wise,
Nor pauses in his plan,
Will take the sun out of the skies
Ere freedom out of man.

—Emerson.

At First Sight.

Judging by the jolly laughter that floated up from the room below, it must have been a pleasant company. Indeed, it could not have been otherwise, for Jack Rollins was there, and that was sufficient to warrant a pleasant evening, providing young men only were present.

This seemingly absurd provision was caused by the fact that Jack was a confirmed bachelor and never intended to marry. He was twenty-seven and handsome, and his friends repeatedly urged him to go into society, for with his good looks and $100,000 income he would be what is termed in social parlance a "good catch." To one and all these tempting offers Jack invariably replied that he had no wish to be a society man, and would remain single all his life.

Another peculiarity of his was that he detested the bicycle and would not be seen on one for love or money. Which little whims caused his fast friends to shake their heads wisely and say: "A good fellow, but—"

He and a companion were walking down the street one beautiful summer afternoon. It was cool and breezy, and that the bicyclists had availed themselves of this was evident by the number that flitted noiselessly by. Jack never deigned to look at them. He held that a woman lost her dignity and womanly instinct by riding a wheel, and the fact that "she has a bike" was sufficient to cause him to turn against any girl whom he might otherwise have tolerated.

Knowing this, his friend was considerably astonished when Jack caught him by the arm and exclaimed:

"Say, Will, who is that girl on that bike? the one with a white yachting cap. Isn't she a stunner?"

Will looked at him a moment and then laughed.

"You are only human, I see, at last," he said, "and I am rejoiced that you have a heart. Oh, don't be in a hurry. I know who she is all right. She is Judge Parker's daughter, and all the boys are raving about her; but she won't notice any of them. She would be the belle of the season if she wasn't so confoundedly cool. By the way, if you want to be introduced to her, come to Mrs. Ashton's ball tonight. I'll introduce you, and see you around."

As this was said only in jest, for previously Jack shunned ballrooms with a righteous zeal, Will was rather surprised when Jack assented eagerly and inquired at what time he would call.

Punctual to the minute, Will arrived and found Jack somewhat nervous. He had fr ted for fear Will should be late.

As they walked down the crowded streets to Mrs. Ashton's, Will indulged in a little good-natured jest at Jack's expense, until Jack turned savagely and told him to shut up; he guessed he knew what he was about.

When they arrived at the ballroom the girls almost stared their eyes out, and rapidly passed the word about that Jack Rollins had arrived; so when Jack entered the room he found himself in the center of a gaping, staring line of young ladies.

There was rather an awkward pause for a few moments, until the hostess came forward and presented Jack to the guests, saying that since he had condescended to grace the occasion with his presence they should do their best to entertain him. Then the buzz of conversation commenced, and soon Jack was in a circle of girls, all talking at once. He was rather awkward at first, but his constraint soon wore off, and he found the evening delightful. Still, he could not help looking around to see if Judge Parker's daughter was there. He could not see her at first, but soon she entered the room. She was at once surrounded by a group of eager young men, but was extricated by Mrs. Ashton, who presented her to Jack.

After that the girls and young men were left to themselves, for Jack monopolized Nell Parker the remainder of the evening, and it seemed that she was not unwilling to receive his attentions. The upshot of it all was that Jack left that night hopelessly in love, and Will could hardly get a word out of him all the way home.

Jack and Nell often met after this, and Jack became a regular visitor at the Judge's. Judge Parker was an intelligent man and took a great liking for Jack, though it was not for the pleasure of arguing with him that Jack visited there so frequently. Matters went on in this way for about a year, and on Xmas, 189 , cards were issued for the marriage of Miss Nell Parker and Mr. Jack Rollins. This created a great commotion in society circles, and the wedding was one of the most gorgeous affairs of the season.

They have now been married over a year, and Jack fairly adores his beautiful young wife, while she thinks there is no one in the world equal to her Jack.

Their family doctor had a busy time of it for a month or so after their marriage, for Jack did not learn to ride a wheel quickly; but now one of the sights of the city is Mr. and Mrs. Rollins on their tandem, as they go spinning down the street.

Economics.

My little neighbor across the way has been very successful in making old clothes look like new, and I will tell you about it, hoping that it will help others who have not an abundance of this world's goods.

When she first came among us (about two years ago) she had a traveling suit of light-gray serge made with a plain gored skirt, and a jacket with immense sleeves that were then considered stylish. Any one who ever possessed a dress made of a good piece of serge can testify as to its wearing qualities, so upon looking over her wardrobe she found that it was badly soiled and out of style, but the material was still good. It was taken apart, all threads removed, and the pieces brushed and washed in warm suds. A few pieces that were left when the dress was made were brought out, and all were dyed a pretty plum color. The old linings were heavy and not much worn, so they were nicely laundered and cut by a late pattern, which fits closely about the hips and flares around the bottom. As the goods had shrunk an inch or more all around, it was necessary to piece each of the five gores and press the seams open before basting the goods to the lining. These seams were afterwards covered with a band of wide mohair braid, with two bands of narrow braid above it, which effectually covered the piecing and added a pretty finish to the skirt. The sleeves were so large that it was no trouble to cut new ones after discarding the worn portions. The back of the jacket was used for the back part of the new waist, which is plain and close fitting. The remainder of the waist and the revers were made of the new pieces, and a full front of silk, in which the prevailing shade was plum color, was put in. The revers were trimmed with a row of braid around the edges, and the sleeves have two rows around the lower part.

A silk waist that had lost its freshness was given a new lease of life in the following manner: The sleeves were taken apart and all the pieces washed and rinsed in gasoline. This is an excellent method of cleaning articles that cannot be washed in water, removing the dirt without injuring the color. When it was dry the pieces where ironed with a damp cloth over them, the sleeves made over in a more fashionable shape, and a plain collar of silk, of color that harmonized with the waist, and it was ready to wear again.

The skirt of an old cashmere dress was taken apart, made a dark shade of crimson with dyes, and is now a pretty and comfortable shirt waist. It is cut with a yoke in the back extending forward on the shoulders and there stitched down on the gathered fronts. This was arranged on a fitted lining and the fronts fastened with gold pins. It is very plain put stylish and becoming.

The love of pretty clothes is inherent in woman's nature, and should be encouraged instead of meeting with the disapproval and sarcasm some people see fit to bestow upon it. There is a certain nameless assertion of womanhood which finds expression in the dainty belongings she delights in. Try as we will to think only of the good qualities of mind and heart which our friends possess, our opinion of them will be influenced in a large measure by their personal appearance. If we must be economical—and this is a necessity with most of us—it is a duty we owe our associates to make ourselves as attractive as possible with the means at hand. That is what my neighbor thinks, and she is certainly successful in her efforts.—E. J. C. in American Cultivator.

The Man Who Drinks.

The Memphis *Commercial Appeal* says: The business world recognizes that no man who drinks is as good as he would be if he never drank. Time was when in certain lines of business it was considered necessary to drink. Quite on the contrary is the case now. Even saloon men prefer barkeepers who do not drink the liquids they sell. All the fairy tales about the great things people do when under the influence of liquor have been exploded. The orator who must be intoxicated in order to make a speech is no longer here, and he has never been here. The lawyer who cannot plead a case or cite an authority without spending the night before in a barroom has gone to visit the pale glimpses of the moon, and he has always been gone. The writer who produces a great poem or a great essay while maudlin was removed from this planet before the command "Let there be light!" was given. The bookkeeper, clerk, mechanic, salesman, artisan, young or old, is not at his best while under the influence of liquor, and he is not as valuable to himself, his employer or society. In the race of life the temperate man has the best of it; the drinking man is handicapped. The sober man is always an improvement on the drunken man.

Persons who complain that their eyes get tired while engaged in some close pursuit, such as writing or sewing, might try the ingenious invention of a journalist, and placed on the market by a Glasgow company. Finding that his eyes become so tired that he could write only with great difficulty, he hit upon the plan of having some strips of colored papers pasted on his desk close to the inkstand, so that every time he wanted a dip of ink his eyes fell upon these colored strips. The result was surprising, and the inventor claims that by this simple device he not only avoided the use of glasses, but also improved his sight.

DOMESTIC ECONOMY.

Hints to Housekeepers.

The cane bottoms of chairs can be rendered tight again by moistening the cane thoroughly with very hot water and washing off so that the cane becomes completely soaked, after which the chairs must be placed in the open air or in a strong draught to dry.

A package of gum camphor is a good thing to slip in one's trunk in the summer. It is a hint from an Adirondack guide that a small piece of the gum about the size of a walnut, burned over a candle so as to produce smoke, but not flame, will drive away, for that night at least, all mosquitos in and about one's apartment.

Bare floors should be wiped daily, but they should be well swept with a hair brush before wiping. Mattings should be swept twice or three times a week. Sweep with a brush and then go over them with a cloth on the broom. Salt and water is very good for a matting, but the matting should be rubbed dry after the salt has been used.

Doilies and carving clothes should be rolled on a stick or roll of paper after they have been ironed, without being folded. The center pieces should never be rolled tightly if they are embroidered. A piece of soft paper and flannel should be placed under them. Your heavy linen will not need starch, but the old linen will be better for a little starch and blueing. See that your laundress uses the heavy irons for the linen.

When properly prepared stewed cucumbers are as delicate and delicious as cream cauliflower. They should be peeled and cut into quarters before they are arranged carefully in the bottom of a bakingpan. Pour over enough boiling water to cover them, add a teaspoonful of salt, and stew gently for twenty minutes. When tender they are removed from the fire, drained and served on a platter of toast, with a rich drawn-butter sauce poured around them.

Domestic Hints.

Strawberry Tapioca.—Soak half a cup of tapioca over night. Place half of it in a deep pudding dish and sprinkle with sugar. Then put a layer of a pint of strawberries, the rest of the tapioca and another layer of strawberries, sprinkling each layer with sugar. Fill the dish full of sugar and bake until perfectly clear. Serve cold with cream and sugar.

Cheese Fingers.—Sift together one cupful of flour and one-quarter spoonful of baking powder; add one cupful of grated cheese, half a teaspoonful of salt and half a saltspoonful of cayenne pepper. Mix with a little cold water to a stiff dough, handling as lightly as possible. Roll out thin, cut in strips and bake on greased letter paper or the bottom of a dripping pan reversed.

Rhubarh Mould.—Weigh one and one-half pounds of good rhubarb, after peeling and cutting up, and cook it for a little while in just enough water to cover it, but no more; then add to this three-fourths of a pound of loaf sugar, after crushing it, and three-fourths of an ounce of leaf gelatine; stir it well together, and let it cook for fifteen or twenty minutes; then lift it off the fire, add a few drops of carmine, if required, and pour it all into a mould, and leave till set; turn out, and serve with custard or whipped cream.

Cup Pudding.—One heaping cup of flour, one teaspoonful of baking powder, one pinch of salt, one piece of lard the size of an egg; stir the above ingredients with milk to make a dough. Put one-fourth or more of a cupful of fruit, either plums, cherries or berries, and plenty of juice in each teacup, and nearly fill with the dough described above. Steam an hour in these cups, without lifting the cover. Then put in saucers and serve with the following dressing. The juice of the fruit ought to be run over the pudding when it is turned out.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 12, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	July.	Sept.
Wednesday	73¼@72⅝	75 @73⅝
Thursday	72⅝@72¾	73¼@74½
Friday	72⅛@72¼	73 @73⅝
Saturday	72¼@72⅛	74⅛@73¼
Monday	71⅝@71⅝	73⅝@72⅞
Tuesday	71⅞@71¾	73½@72¾

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	July.	Sept.
Wednesday	5s 9¾d	6s 0¾d
Thursday	5s 9½d	5s 11⅝d
Friday	5s 8½d	5s 11 d
Saturday	5s 8⅝d	5s 11¼d
Monday	5s 8½d	5s 11 d
Tuesday	5s 9 d	5s 10⅞d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 18⅝@1 18⅝	——@——
Friday	1 17⅝@1 18½	——@——
Saturday	1 18 @1 17⅞	——@——
Monday	1 17⅝@1 17½	——@——
Tuesday	——@——	——@——
Wednesday	1 19¼@1 18¼	——@——

Wheat.

With speculative values in Eastern and foreign centers, as well as here, on the down grade most of the week, the spot market inclined, in sympathy, slightly in favor of the buying interest, shippers trying to operate at a reduction of about 25c per ton. In consequence of exporters' immediate needs not being very heavy, they were able to depress spot values to about the extent above mentioned, but with free buying this would not have been possible. One drawback to the development of much firmness at present in this center, even should conditions be favorable abroad, is the large quantity of last year's crop still remaining unplaced in Oregon and Washington.

Although there have been no positive evidences of much trading in actual wheat in this center, there is doubtless more doing than appears on the surface, if not here, at least in the interior, and for account of this port. Two ships came down from Port Costa during the week, wheat laden for Europe, and the outward movement is sure to soon show decided increase, as compared with clearances for months past, as the necessary ships for a more liberal export trade are now on the engaged list, most of them with lay days not extending very far into the new season. There is good reason to anticipate a better foreign demand than during the past cereal year, although in the speculative market bears have succeeded in depressing values to some extent during the week, when their interests so required. The crop in Europe is likely to prove light and considerably below that of last year. In the wheat belt of the Missouri river section the yield will undoubtedly be below the average of the past four or five years. Admitting all this shortage, it is true there is no probability of there being any great scarcity, as the decrease in this country and in Europe will be offset to some extent by increased supplies in India, Australasia and South America. At the same time, with a normal demand, such as may be reasonably expected, there is little or no danger of the world's supply proving so far ahead of actual requirements as to justify very low or unprofitable prices being established for wheat this season. In this State the crop in most of the middle and northern counties is turning out better than was generally anticipated, although there are not a few localities where the returns are disappointing and decidedly light. In most parts of Oregon and Washington the yield will be good, but there will be less wheat than last season on account of reduced acreage. Ocean freight rates are moderately firm at the last quoted advance, desirable ships being mainly held at 32s 6d, or about 5s higher than a year ago, the difference being equivalent to fully 5c per cental.

California Milling	$1 12½@1 17½
Cal. No. 1 shipping, alongside	1 08¾@1 11¼
Oregon Valley	1 07½@1 12½
Walla Walla Blue Stem	1 10 @1 15
Walla Walla Club	1 05 @1 12½
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.18¾@1.17⅞.

May, 1900, delivery, $——@——.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.17¾@1.17⅝; May, 1900, ——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1897-98.	1898-99.
Liv. quotations	7s2d@7s2½d	6s3d@6s4½d
Freight rates	24¼@26¼s	32½@35s
Local market	$1.25@1.30	$1.08¾@1.11¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

There is a fair movement to the Orient and to Central and South America, but the flour thus being shipped is largely on contracts. Actual trading at present is light, especially in a wholesale way, and market is lacking in noteworthy firmness. Former quotations remain in force, but the market is not firm at these figures, except for brands which are in particularly high repute with consumers.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Further firmness has been manifested the past week in the barley market, with a good demand, especially for shipment to Europe. An effort was made by the bear crowd on the Call Board to make it appear that the strength manifested the previous week was simply a "flash in the pan," and unwarranted by existing conditions. But the scheme was not a great success, as the depression thus brought about proved temporary and was then confined almost wholly to Call Board values. Buyers have been and are still anxious to secure round lots of barley of desirable quality, and are operating in the interior as well as here, paying in some instances in the country relatively higher figures than are obtainable in a regular way in this center. Three more ships have been added to the engaged list the past week, having the privilege of taking barley as whole or part cargo. There are now not less than six vessels listed which have barley specified in their charter, and if most of these do not take full cargoes of this cereal it will be because the grain is not obtainable at anything like reasonable figures. Chevalier will doubtless be wanted, as this variety is invariably in better request for export than for home use. Strictly clean, bright and heavy Chevalier will likely command not less than $1 60 per cental, although some of the daily papers are publishing ridiculously low quotations, intended to mislead the growers.

Feed, No. 1 to choice	95 @1 00
Feed, fair to good	92½@ 95
Brewing, No. 1 to choice, new	1 02½@1 10
Chevalier, No. 1 to choice	— @ —
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 88@92c.

December, 1899, delivery, 91@95c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 93@92½c; seller 1899, new, 90¼@89¾c.

Oats.

Desirable qualities of old oats are in light stock and are commanding in a small way rather stiff prices, sales being mainly within range of $1.40@1.50, and the quality not particularly fancy at latter figure. On the other hand, common qualities of new oats are not receiving much attention in a wholesale way, and where bids are made they are at generally decidedly low prices. For some ordinary new Red it was necessary to accept as low as $1.12½ to secure prompt custom. As soon as the better grades of new begin to be offered there will be more competition between buyers.

OLD.

White Oats, fancy feed	1 40 @1 45
White, good to choice	1 32½@1 37½
White, poor to fair	1 25 @1 30
Gray, common to choice	1 30 @1 37½
Milling	1 32½@1 37½
Surprise, good to choice	1 40 @1 45
Black Russian	1 25 @1 30

NEW.

Red	1 12½@1 25

Corn.

The imported article continues to be offered in fairly liberal quantity, but at no material reduction in prices from those current for several weeks past. Most of this corn is already in second hands, and cost, laid down in this center, close to the figures at which it is now held. Domestic Small Yellow is in such very limited supply as to be hardly quotable. Buyers in quest of Small Yellow find it necessary to pay stiff figures.

Large White, good to choice	1 12½@1 17½
Large Yellow	1 10 @1 12½
Small Yellow	1 40 @1 45
Eastern Mixed	1 07½@1 10

Rye.

Trade in this cereal continues of a light order, neither buyers nor sellers displaying much anxiety. Quotable values are without appreciable change.

Good to choice, new	97½@1 02½

Buckwheat.

Stocks are light and in very few hands. There is little other than the asking rates of jobbers upon which to base quotations at present.

Good to choice	2 25 @2 50
Silverskin	— @ —

Beans.

There is a firmer tone to the bean market for nearly all varieties, both white and colored. There has been an active request the past week for Pinks and Bayos for shipment to points North for mining and lumber camps, etc., also for shipment to Arizona, Texas and tributary country. Bayos brought $1.85 and Pinks $2 per cental in round lots. White varieties, and more particularly Lady Washingtons, are being held at an advance in anticipation of more active demand from the East, in consequence of poor crop conditions on the Atlantic side. Rates for Large Whites or Lady Washingtons have been lately relatively higher East than in this market. Limas are being very steadily held, with stocks everywhere light, and the coming crop certain to be of rather small compass, owing to reduced acreage.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 05 @2 15
Lady Washington	1 70 @1 80
Butter, small	—— @——
Butter, large	—— @——
Pinks	1 95 @2 05
Bayos, good to choice	1 85 @1 95
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	4 15 @4 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Advices from New York by recent mail give the following review of the bean market in that center, prices quoted being per 60-lb. busbel:

The business of the week has been of rather small volume, but arrivals have continued light and with advices of very dry weather in the chief bean-producing sections holders have taken quite a firm view of the situation, and have asked a slight advance on white varieties. Exporters have done very little in Marrow beans, and the jobbing business in choice marks has been mainly at $1.47½; but toward the close $1.50 has been asked and obtained sufficiently often to establish the quotation; several carloads can be bought at that figure but no choice lots are now offering for less. Medium have had a few sales up to $1.32½, but some pretty good lots are still going at $1.30. Pea have become firmly established at $1 30, with a disposition to ask 2½c more at the close for some of the fancy marks; the demand, however, is light and the improvement in price comes very slowly. Red Kidney have had no demand to speak of and with a fair quantity of stock here receivers have been willing to sell the choicest lots at $1.70. White Kidney still in small supply and prices well sustained. Yellow Eye have had a little more call and with light offerings prices are a trifle steadier at the close. Only small jobbing sales of Turtle Soup at $1.70. California Lima are showing increased firmness; no stock has arrived here of late and the holdings have been gradually reducing; recent sales at $2 60 in a jobbing way and there are not many more to be had at that price; holders would demand more money for carload lots. Both green and Scotch peas have advanced under very light receipts and decidedly higher advices from the west; green are especially scarce at the moment and we understand that there is quite a demand in the west from canners.

Dried Peas.

There is nothing of consequence now doing in this article, but market is firm in tone and gives promise of so continuing for some months to come.

Green Peas, California	2 30 @2 40
Niles Peas	2 00 @2 10

Wool.

The general tone of the wool market is fully as strong as for a fortnight or more past, but the market is less active than a few weeks ago, for the good reason that wools are not now offering freely, stocks in first hands having been reduced to small proportions. Receipts from Oregon and Washington during the past few weeks have been moderately free, partly last year's clip and mostly representing purchases made prior arrival. It is likely that the market will remain rather quiet for at least a month or six weeks, or until Fall wools begin to come forward in sufficient quantity to be worthy the attention of large buyers. While there is no probability of the market for desirable wools developing any weakness, heavy and defective Southern Fall fleeces are not likely to be eagerly sought after, and prices obtainable for wools of this description may not come up to the anticipations of growers.

SPRING.

Humboldt and Mendocino	15 @18
Northern Sacramento Valley, free	12 @14
Northern Sacramento Valley, defective	9 @11
San Joaquin foothill, free	10 @12½
San Joaquin foothill, defective	8 @10
San Joaquin plains and southern, 7 mos	—@—
San Joaquin plains and southern, 12 mos	7 @10
Nevada, as to condition	10 @14
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @18

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	—@—
Plains, defective	—@—

Hops.

With market virtually bare of offerings of desirable quality of last crop, and none of the new crop expected for a month or more, it is but natural that the market should show an inactive condition. Prospects are favorable for a good demand for prime to choice of the coming yield, and for profitable figures being realized. There might be some activity now in contracting for forward delivery, if growers were willing to accept 12@13c for choice. Producers do not feel warranted, however, in contracting at these figures, being of the opinion that such an arrangement would be altogether too one-sided and against them, as they argue that there is no probability of choice being worth less and a strong probability of better figures prevailing

Good to choice, 1898 crop	14 @17½

The following concerning hops comes through by mail of late date from New York:

Heavy wind storms have prevailed in some of the best hop growing sections of this State and following so soon after the dry weather, which kept the crop backward, there is reasonable grounds for the belief that the yards have been considerably damaged. It seems quite evident that less hops will be grown in New York State than last year. Lice are reported in Oregon and in western Washington, but farmers are washing the vines and it is hoped that the increase of vermin may be checked. The yards in California are doing well and the present outlook for the coast is for more hops than in 1898. Our local market has been very quiet the past week; exporters have been shipping some further lots, chiefly old Pacifics, but they have not made many fresh purchases, nor have brewers taken on much more stock. Holdings here have been reducing steadily and with continued light receipts holders have not urged sales, and there is a generally steady tone to values. Most confidence is felt in good to choice qualities, the latter being in unusually light stock both here and in the interior.

Hay and Straw.

No changes of great moment have been experienced in the hay market since last review, values and tone continuing on much the same lines as preceding week. Desirable qualities of stable hay, suitable for storing, have been receiving a little more attention, with indications that inquiry from dealers and consumers will be still more active in the near future, and that sales will aggregate tolerably heavy if prices keep within reasonable bounds.

Wheat	8 00@10 00
Wheat and Oat	7 00@ 9 50
Oat	7 00@ 8 50
Barley	6 50@ 7 50
Alfalfa	5 00@ 7 50
Timothy	——@——
Compressed	8 00@10 50
Straw, ₱ bale	25@ 40

Millstuffs.

The market for Bran and all flour offal inclined in favor of buyers, although in quotable rates there were no pronounced changes. Prices for Rolled Barley were fairly sustained at previous range. Milled Corn was held about as last quoted.

Bran, ₱ ton	15 50@16 50
Middlings	17 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	20 50@21 00
Cornmeal	24 00@ ——
Cracked Corn	25 00@ ——

Seeds.

Little doing in this line, stocks of most kinds being too light to admit of noteworthy trading. In consequence of very limited supplies, prices for Canary Seed have been advanced. Values for other kinds herewith quoted remain nominally as previously stated.

	Per ctl.
Mustard, Trieate	3 50@——
Mustard, Yellow	2 50@3 00
Flax	——@——
	Per lb.
Canary	3 @3½
Rape	3½@4
Hemp	4½@4½
Alfalfa, Utah	8½@9½

Bags and Bagging.

While the demand for Grain Bags is very fair and prices are being tolerably well sustained, it is claimed that any strength the market possesses is attributable more to a recent combination among heaviest holders than to any other cause.

Calcutta Grain Bags, buyer July	5⅝@—
San Francisco Grain bags, 22x36, spot	5½@ 5⅝
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5¼@ 6

Hides, Pelts and Tallow.

The inquiry for Hides is sufficiently active to absorb all offerings at prevailing rates. Pelts are receiving fair attention at same range of values current for some weeks past. Tallow continues in good request, prices ruling decidedly steady.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	—@10	—@ 9
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	—@ 9	—@ 8
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

Only moderate quantities are arriving of either Comb or Extracted, with no prospect of the market being heavily burdened with offerings any time this season. Business is mostly of a jobbing character and for such transactions the market is firm at the quotations. Some Extracted of superior quality is arriving from Monterey county.

Extracted, White Liquid	7¼@ 7½
Extracted, Light Amber	6½@ 7
White Comb, 1-₱ frames	10 @10½
Amber Comb	7½@ 9

Beeswax.

Market is very lightly stocked and firm, with prospects of so continuing throughout the season.

Good to choice, light, ₱ lb	26½@27
Dark	25 @26

Live Stock and Meats.

Beef is not in very active request, as is ordinarily the case during midsummer, and market is consequently not particularly firm. Choice Veal is bringing stiff prices. Tendency on Mutton has been to more firmness, with offerings on the decrease. Values for Hogs were well maintained at advance quoted, and prospects at the moment appear good for a firm market for at least several weeks to come.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 6½@7c; wethers	7 @ 7¾
Hogs, hard grain fed, medium	5¾@ 5¾
Hogs, small, fat	5¼@ 5½
Hogs, large hard	5¼@ 5½
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	9 @10
Veal, large, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	7½@ 8

Poultry.

Demand showed some improvement for Chickens, and with only moderate arrivals, prices averaged better than preceeding week. Inquiry was mainly for choice young stock, although large and fat old did not lack for custom at fairly good prices. Market for Turkeys, Ducks and Geese ruled quiet at generally unchanged values.

Turkeys, young, ₱ lb	16 @ 18
Turkeys, live hens, ₱ lb	11 @ 12
Turkeys, live gobblers	11 @ 12
Hens, Cal., ₱ doz	4 50 @5 50
Roosters, old	4 50 @5 00
Roosters, young, (full-grown)	6 00 @7 50
Fryers	4 50 @5 00

Broilers, large	3 50	@4 00
Broilers, small	2 50	@3 50
Ducks, ℔ doz	3 50	@5 00
Geese, ℔ pair	1 12½	@1 25
Goslings, ℔ pair	1 25	@1 37½
Pigeons, Old, ℔ doz	1 25	@1 50
Pigeons, Young	1 25	@1 50

Butter.

Market has developed additional strength for best grades of fresh, and is likely to be firm for some weeks to come. The output of the dairy sections is on the decrease, and the proportion of butter which is suitable for the best trade is much lighter than it was earlier in the season. Common grades of fresh are in ample stock. Packed butter is ruling quiet at former values.

Creamery extras, ℔ lb	20	@—
Creamery firsts	19	@—
Creamery seconds	18	@—
Dairy select	18	@—
Dairy seconds	15	@17
Dairy, soft and weedy	—	@—
Mixed store	13	@14
Creamery in tubs	18	@20
Pickled Roll	18	@20
Firkin, Cal., choice to select	18	@20
Firkin, common to fair	15	@16

Cheese.

There has been a fair shipping demand lately for desirable grades, causing the market to present a little better tone, but at the same time there have been no pronounced changes established in quotable rates. Briefly stated, the market may be termed firm without being quotably higher.

California fancy flat, new	8¼	@—
California, good to choice	7¼	@ 8
California, fair to good	7	@ 7½
California Cheddar	—	@—
California, "Young Americas"	8	@ 9½

Eggs.

Tendency on choice to select has been to firmer prices, while common qualities have been dragging more than for some time past and at fully as low figures as have been lately current. Eastern eggs are now arriving at the rate of four to six carloads per week.

California, select, large white and fresh	20	@—
California, select, irregular color & size	17	@19
California, good to choice store	16	@17
Eastern, as to section and grading	15	@18
Eastern, cold storage	—	@—

Vegetables.

Such changes as have occurred in prices of vegetables the past week have been in the main slight. Seasonable kinds were as a rule in liberal supply and cheap. Especially did Cucumbers, Squash and Tomatoes incline in favor of buyers. Onions continued plentiful and weak at low prices, both Yellow Danver and early Red, but the latter will soon be out of market.

Asparagus, fancy, ℔ box	—@	—
Asparagus, No. 1, ℔ box	1 50@	2 00
Asparagus, common to fair, ℔ box	50@	75
Beans, Wax, ℔ lb	3@	4
Beans, Vacaville, String, ℔ lb	3@	4
Beans, Los Angeles, String, ℔ lb	—@	—
Cabbage, choice garden, ℔ 100	1 15@	1 30
Cauliflower, ℔ doz	50@	—
Corn, Alameda, ℔ crate	1 00@	1 50
Corn, Green, ℔ doz	7½@	12½
Corn, Green, ℔ sack	50@	75
Cucumbers, Alameda, ℔ large box	60@	85
Cucumbers, ℔ small box	25@	50
Egg Plant, ℔ lb	5@	7
Garlic, new, ℔ lb	3@	4
Mushrooms, Buttons, ℔ lb	—@	—
Mushrooms, wild, ℔ box	—@	—
Onions, Yellow, good to choice, cental	75@	85
Onions, New Red, ℔ cental	25@	40
Peas, Sweet, Garden, ℔ lb	3@	4
Peas, common, ℔ lb	1½@	2½
Peppers, Green Chile, ℔ lb	3@	4
Rhubarb, ℔ box	—@	—
Squash, Bay, ℔ large box	35	50
Squash, Marrowfat, ℔ ton	—@	—
Squash, Summer, ℔ small box	20@	25
Tomatoes, Bay, ℔ large box	1 25@	1 75
Tomatoes, ℔ small box	25@	50

Potatoes.

Arrivals were of very moderate volume, as for some weeks preceding, and prices continued close to the comparatively high figures previously quoted. The demand at full current rates, however, was not brisk, either for shipment or on local account.

Burbanks, River, ℔ cental	—	@ —
Burbanks, Bay counties, ℔ ctl	—	@ —
Burbanks, Humboldt	—	@ —
New Early Rose	1 65	@1 85
Garnet Chile	1 60	@1 80
New Burbanks, ℔ cental	1 60	@2 00
Sweet River, ℔ cental	—	@ —
Sweet Merced	—	@ —

The Fruit Market.

Fresh Fruits.

Most kinds of deciduous fruits now in season were in fairly liberal supply, but common qualities were much more plentiful than choice to select. Apricots of high grade continued in good request and brought much the same figures as previously quoted. There is no probability of there being any surplus of choice fruit of above variety this season. For superior stock, the demand is of course limited and prices rule low. Apples now on market are mostly very ordinary, suitable only for cooking, and on such stock buyers are able to dictate very much their own terms. For choice Gravenstein or equally desirable fruit there was a fair demand and market was firm at the quotations. Choice Bartlett Pears ruled scarce and high. Common Pears were weak. Peaches sold at a wide range, owing to a correspondingly pronounced difference in quality of offerings. Market for common qualities in baskets was particularly weak. Plums were quite plentiful, and for other than especially desirable varieties prices satisfactory to the selling interest were not readily realized. Grapes did not make much of a display, and where the fruit was ripe and attractive, good figures were obtained without much difficulty. Figs were in liberal receipt and market easy. Nutmeg Melons were in moderate receipt and lower. Watermelons were in fair supply but small, with weather unfavorable during a great part of the time for any active demand for melons.

Apricots, choice Royal, ℔ ton	50 00@	—
Apricots, Royal, ℔ box	50@	75
Apricots, Pringle, ℔ box	—@	—
Apples, fancy, ℔ 50-lb. box	—@	—
Apples, good to choice, ℔ 50-lb. box	75@	1 00
Apples, Green, common to fair, ℔ 50-lb. box	30@	50
Blackberries, ℔ chest	3 00@	4 00
Cantaloupes, ℔ crate	3 00@	4 00
Cantaloupes, Nutmeg, ℔ box	1 00@	1 50
Cherries, Black, ℔ box	—@	—
Cherries, Red, ℔ box	—@	—
Cherries, Royal Anne, ℔ box	—@	—
Cherries, White, ℔ box	—@	—
Crabapples, ℔ small box	35@	50
Currants, ℔ chest	4 00@	5 00
Figs, as to quality, ℔ box	25@	75
Gooseberries, ℔ lb	—@	—
Gooseberries, ℔ 10-lb box	—@	—
Grapes, Black, ℔ box	90@	1 15
Grapes, Fontainebleau, ℔ box	90@	1 15
Grapes, Seedless, ℔ crate	1 25@	—
Logan Berries, ℔ chest	4 00@	6 00
Nectarines, Red, ℔ box	75@	1 00
Nectarines, White, ℔ box	40@	60
Peaches, fancy wrapped, ℔ box	50@	65
Peaches, ℔ box	25@	50
Pears, No. 1 Bartlett, ℔ 60-lb. box	1 50@	1 75
Pears, common, ℔ basket	25@	40
Pears, ordinary, ℔ box	25@	60
Plums, large, ℔ crate	40@	50
Plums, ℔ box	25@	40
Plums, Tragedy, ℔ crate	40@	60
Plums, Cherry, ℔ drawer	—@	—
Raspberries, ℔ crate	—@	—
Raspberries, ℔ chest	3 50@	5 00
Strawberries, Longworth, ℔ chest	3 50@	5 00
Strawberries, Large, ℔ chest	2 50@	3 00
Watermelons, ℔ 100	10 00@	15 00

Dried Fruits.

There are no large quantities of new crop fruit arriving, and no heavy stocks anticipated in the near future. Receipts of Apricots remain of light volume, and the weakness which some predicted in the market for this fruit has not yet developed, nor is it likely to be experienced the current season. Those who shorted the market for both early and late deliveries of Apricots are likely to come out losers. While Moorparks are quoted, it is extremely doubtful if there will be enough of this variety of the crop of 1899 to warrant naming prices. Largest Royals and Blenheims will be made to serve as Moorparks, and select of these substitutes may command an advance on quotations below named. Evaporated Apples are quotably lower, largely the result of quality of offerings, as only common grades have thus far put in an appearance. A few Peaches have arrived, and, coming on a bare market, have been held at 8@9c, but these figures are not warranted as regular quotations. Wholesale trading in prime unpeeled is expected to open at about 7@7½c. Prices on new crop Figs have been named by a large handler at 7@8c at primary points for 5 and 4 layers in 10-lb. boxes, Sept.-Oct. shipment; 3 to 6 crown cartons, 10-lb. boxes, 8@13c. Figs in bulk for same delivery as above, 6c for 50-lb. boxes and 6½c for 25-lb. boxes. These figures are for carload lots. In the Prune market there are no evidences of any noteworthy trading in spot stocks, prices remaining nominally as before. In forward deliveries of coming yield, so far as reported, nothing has yet been done.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	9	@10
Apricots, Royal, fancy	10½	@11½
Apricots, Moorpark	12	@13
Apples, in 50-lb. boxes, rings, pressed, fancy	—@—	
Apples, 50-lb. boxes, rings, pressed, fair to good	8	@—
Figs, White, fancy pressed	—@—	
Peaches, unpeeled, good to choice	7	@ 8
Peaches, unpeeled, fancy	—@—	
Peaches, peeled, in boxes	—@—	
Pears, unpeeled Bartletts, halved, fancy	—@—	
Pears, halved, unpeeled Bartletts	—@—	
Pears, quartered, unpeeled Bartletts	—@—	
Plums, pitted	—@—	
Prunes, in sacks, 40—50's	7	@—
50—60's	4¾	@ 5
60—70's	3¾	@ 4
70—80's	3	@ 3¼
80—90's	2¾	@ 3
90—100's	2½	@ 2¾
110—130's	2	@ 2¼

Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	3¼	@—
4 sizes San Joaquin and Northern	3	@—
Prunes, Silver	4	@ 7

COMMON SUN-DRIED.

Apples, sliced	4@	6
Apples, quartered	4@	6
Figs, Black	—@—	
Figs, White	—@—	
Peaches, unpeeled	—@—	
Plums, unpitted	—@—	

The dried fruit market on the Atlantic side is reported as follows, according to recent New York advices by mail:

Evaporated apples have shown very little change. Demand is confined to small jobbing wants, and with offerings quite liberal tone is easy and quotations full. Canadian fruit in bond is still offering freely at 7¾c for prime without attracting attention, probably less would be accepted. Very little doing in futures as the unfavorable crop reports in many sections cause producers to feel firm and confident, and few if any sales reported: speculators could probably be interested at 7@7½c for strictly prime wood-dried for October or November delivery, but stock held higher. Sun-dried apples scarce and nominal. Chops continue quiet with best stock offering at 2¼c without attracting much attention; prices range down to 1¾@2c for damp unattractive lots. Cores and skins remain at 1¼@1¾c, some very poor stock lower. Raspberries firm and higher owing to unfavorable crop reports. Huckleberries dull. Blackberries quiet but firm. Not much doing in cherries. California fruit in light remaining stock and held in few hands at about late prices.

Apricots, Cal. Moorpark, 1898, per lb	14	@16
Apricots, Cal. Royal, 1898, per lb	13	@14½
Peaches, Cal., 1898, unpeeled, per lb	9	@12
Prunes, Cal., 1898, per lb	3	@ 8½

Raisins.

This market is without new or especially noteworthy feature. Remaining stocks in the hands of the Combination are being held as previously quoted. Beyond a jobbing trade of small volume there is practically nothing doing.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—@—	
Dehesa Clusters, per box	—@—	
Fancy Clusters, per box	—@—	
London layers, 3-crown, 20-lb box	—@1	20
London layers, 2-crown, 20-lb box	—@1	10
Valencia layers, ℔ 20-lb box (Usual advance for fractions.)	80@1	00
Loose Muscatel, 4-crown, ℔ lb	5¼	@5¾
Loose Muscatel, 3-crown	4¼	@4¾
Loose Muscatel, 2-crown	3¼	@3¾
Loose Muscatel, ungraded	—@4	
Sultanas, unbleached	—@4½	
Seedless Muscatel	—@3¼	
Thompson's Seedless, unbleached	—@6	
(Above prices for loose raisins are for 50-lb boxes.)		
Dried Grapes	2½	@2¾

Citrus Fruits.

Orange market is quiet and lacking in firmness. Offerings include very few which can be termed desirable and demand is insignificant. Lemon market has not changed materially since last review. The inquiry which existed was not very brisk and was mostly for best qualities. Selected commanded top quotations more readily than most ordinary did the lowest figures below named. Limes were in fair supply, with asking rates generally unchanged.

Oranges—Navels, ℔ box	—@—	
Mediterranean Sweets	1 00@	1 50
Seedlings	75@	1 25
Japanese Mandarins	—@—	
Grape Fruit, ℔ box	—@—	
Lemons—Cal., select, ℔ box	2 50@	3 00
Cal., good to choice	1 50@	2 00
Cal., common to good	75@	1 50
Limes—Mexican, ℔ box	4 00@	4 50
Cal., small box	75@	1 00

Nuts.

In the line of domestic crop Almonds and Walnuts, there is nothing upon which to base quotations at present, owing to stocks being exhausted. Some Chile Walnuts are on market and are being offered in a wholesale way at 10c. Peanuts are in very moderate supply, with fair demand and market firm for prime to choice at the ruling rates.

California Almonds, paper shell, ℔ lb	—	@—
California Almonds, soft shell	—	@—
California Almonds, hard shell	7	@ 9
California Almonds, shelled	—	@—
Walnuts White, paper shell	—	@—
Walnuts White, soft shell	—	@—
Walnuts White, Cal., standard	9	@10
Chestnuts, Cal. Italian	6	@ 7
Peanuts, Cal., fair to prime	5	@ 5½
Peanuts, Eastern hand-picked	6	@ 7
Pine Nuts	6	@ 8

Wine.

The market is quiet, but in the matter of quotable rates is without change. New claret continues quotable at 16@20c per gallon wholesale, San Francisco delivery. In a jobbing way prices are correspondingly higher, to conform with conditions existing. Efforts are now on foot to place the wine industry on a more substantial basis, but it is too early to state what success will attend the same. Receipts of wine in June were 1,198,687 gallons, as against 985,688 gallons in June, 1898, and 656,406 gallons in June, 1897. Receipts of brandy last month were 4380 gallons and for June, 1898, were 12,842 gallons.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	92,433	76,816	85,593
Wheat, ctls	3,385	2,270	84,525
Barley, ctls	45,145	35,010	11,895
Oats, ctls	15,070	14,350	7,915
Corn, ctls	600	600	1,200
Rye, ctls	1,320	1,320	....
Beans, sks	2,562	2,562	1,511
Potatoes, sks	17,138	14,342	17,337
Onions, sks	3,604	2,904	5,168
Hay, tons	1,586	1,471	1,608
Wool, bales	2,812	2,279	1,576
Hops, bales	70	70	190

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	42,528	41,240	20,864
Wheat, ctls	65,397	65,086	109
Barley, ctls	7,912	1,228	2,746
Oats, ctls	939	5	170
Corn, ctls	632	42	277
Beans, sks	910	321	349
Hay, bales	1,495	35	180
Wool, lbs	....	....	....
Hops, lbs	3,180	2,181	941
Honey, cases	35	4	13
Potatoes, pkgs	2,713	1,555	969

California Dried Fruit at New York.

NEW YORK, July 12.—California dried fruits: Market quiet but steady. Evaporated apples, common, 6½@7c; prime wire tray, 8¼@8½c; choice, 8½@8¾c; fancy, 9@9½c.

Prunes, 3¾@8¼c.

Apricots, Royal, 14@16c; Moorpark, 16@18c.

Peaches, unpeeled, 10@12c; peeled, —@—c.

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Eastern Fruit Reports.

The Arkansas section of the Weather Bureau, July 4, says: Prospects are not very flattering for an abundant fruit crop.

The New York section, July 3, says: But little change in the fruit outlook is noted. Considerable dropping is reported. The prospects for pears and apples are fairly good. The outlook for peaches is not so good, but some sections report the outlook for this fruit as good, especially in parts of Niagara county. Cherries are plentiful. A full yield of blackberries is promised.

The New Jersey section, July 4, says: At the close of June orchard fruits may be considered fairly promising. Although the "June drop" has been heavy in some places, it was not abnormally so. The twig blight is doing much injury. In some orchards many trees have been killed.

The Kentucky section, July 3, says: Fruit is very poor. Apples and pears are dropping badly and are of inferior quality. The peach crop, as heretofore reported, is an entire failure, having been killed by the severe weather in February.

Black Leg Vaccination.

Preventive vaccination for black leg was introduced to American stockmen by the Pasteur Vaccine Company in 1895. "Pasteur Vaccine" is nowadays a household word in those parts of the country where black leg is so troublesome. The Pasteur vaccines have for the past four years been used with the greatest success and satisfaction, and the former heavy losses from black leg have been practically eliminated by those stockmen who have been wise enough to avail themselves of Pasteur Vaccine. The Pasteur Vaccine Company, always to the fore, is now furnishing its black leg remedy is a form which is all ready for use, the only instrument required being a special needle, which is furnished with each package. No mixing, no filtering, no hypodermic syringe with its intricate parts. This new form of black leg vaccine has been given the name of "Blacklegine," in order to distinguish it from the powdered vaccines. The Pasteur Vaccines, both of the "single" and "double" kind, as well as "Blacklegine," are furnished only by the Pasteur Vaccine Company, whose headquarters are at 54 Fifth avenue, Chicago, and we recommend our readers to write to them for further particulars on the subject.

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A NEW DEPARTURE.

LIVINGSTON, CAL., April 15, 1899.

Mr. I. L. Burton.—DEAR SIR: I am satisfied that the windmill and your 3-in. Centrifugal Pump is all right. With a good wind it throws sand and water from 1 ft. to 2½ ft. above pipe. Draws well down 10 ft., making 32 ft. lift. This ought to sell several more for this use. Yours truly, C. F. BLEWETT.

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Alligator Pears in California.

W. S. Lyon of Los Angeles, a well-known southern horticulturist, writes interestingly of the Alligator pear in California for the Los Angeles *Times*. He says that Alligator pears (Persia gratissima) from the Hawaiian islands are now offered in the fruit stalls at the inconsiderable price of 40 cents apiece, or $4.50 per dozen. Plucked perfectly green, they are not so bad as might be expected, although not to be compared with the product of several Los Angeles gardens. The price should be an incentive to any one having a deep free soil to plant one or more in a conspicuous place on their home lot.

You can readily sell any surplus; but after you and your family are familiar with this delicious salad fruit, there will be no surplus to sell. Instead, you will go into the market and buy some one else's surplus. To grow them successfully the location must be reasonably exempt from frost. Such locations abound in the northwestern portions of Los Angeles city. The tree itself is fairly immune from such frosts as occur here even in the lowlands, but the flowering season comes in winter, and in a year of unusual severity may cost the grower his crop.

The Tree and its Needs.—A most beautiful tree it is, a truly regal laurel, of graceful form and broad, lustrous evergreen leaves, well deserving the conspicuous place in the grounds that we bespoke for it at the outset of this article.

While the climatic conditions in the section referred to are all that can be desired, the other essential to success—a well-drained soil—is not so abundant. Much of these hill lands, at depths of 2 to 5 feet, are underlaid with a tenacious, waterproof, root-proof clay, and when the roots encounter this, the result is a premature falling of the fruits. This may be in a measure overcome by keeping the roots near the surface by the use of frequent top dressings and eliminating all strong growing plants from the immediate neighborhood.

Now you have only to wait for fruit four to six years, depending on the age and size of the plant when set out. The seeds are large and very easily sprouted in the open ground in midsummer, but it is of advantage to start with one or preferably two well-grown, two-year 4-foot nursery plants. I say two, as the probabilities are that cross-fertilization will tend to diminish fruit dropping. This, while now an axiom in common orchard management, is, so far as Alligator pears are concerned, purely hypothetical, as, so far as I am aware, no plantings upon a commercial scale have yet been made in California.

In the Sawyer place in Santa Barbara there is, however, an isolated specimen that has perfected more than 200 fruits in one crop. This I attribute to the deep, rich and porous soil in which it grows, but still am of the opinion that, given the opportunity for cross-breeding, it would be still more fecund.

Varieties.—There are many varieties (chiefly unnamed) in cultivation, but all of them are good. The commonest is a very large fruiting kind, the size sometimes of a small egg plant, and a smaller, very dark one, with fruit smaller than a turkey egg, for which connoisseurs claim a more delicate flavor. Both varieties may be seen in the grounds of I. L. Murietta on College street, Los Angeles. The fruits should be gathered when beginning to turn a purplish color, and should be handled like winter pears—that is, laid away in close drawers or in a dark room until a little tender and of dark purple color. Now you are ready for an epicurean feast.

The pear (the day of using) is laid close to the ice, peeled and cut into medium thin slices. Then add a French dressing of oil, salt and lemon juice, instead of vinegar, and a pinch of cayenne in lieu of black pepper. Then garnish the dish and it is ready to serve. Chablis is the correct beverage to use with it; but in an emergency a good, dry champagne will answer.

It is doubtful if any single product of the tropics is so easily digested or assimilated as this "vegetable butter," or aguacate, as it is known in Spanish-American countries. One can eat to repletion without ill effects, and in half an hour yearn for more Alligator pears to conquer.

If its production upon a commercial scale is ever accomplished in southern California, there is little doubt but that it would become as much a staple as tomatoes and peaches.

To Seek Beneficial Insects Abroad.

Los Angeles, July 6.—George A. Compere, the Los Angeles entomologist, was to-day notified by telegram from Secretary Lelong of the State Board of Horticulture of his appointment as special agent to search in foreign lands for beneficial insects. Compere was for over ten years inspector for the Los Angeles County Board of Horticultural Commissioners. Last fall he was sent to the Hawaiian islands by the Supervisors to search for a parasite for the purple scale and returned with a stock of beetles which, upon being set free in the orchards of the county, quickly went to work to devour the purple scale.

"The appointment is made," said Compere to-day, "in accordance with the action of the Legislature at its last session in appropriating $7500 to pay for sending a man abroad to search for beneficial insects. My work probably will be mostly in Australia. Wherever an insect is regarded as harmless which has elsewhere under similar climatic conditions proved itself a pest, it is safe to say the reason why the insect is kept from being harmful is that some parasite preys upon it and keeps down the numbers so effectually that the insect can do no great damage. A search for the beneficial insect follows such clews. That was the process by which was found the vedalia cardinalis, which has almost exterminated the white scale."

Striking Victory Won by California Fruits.

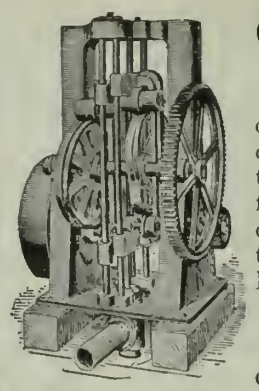
Berlin, July 5. — California fruits have won a magnificent victory here. An incident of the recent exposition held in connection with the great medical congress bids fair to create an unprecedented call for the Golden State's luscious products, and may, perhaps, even exercise a bearing on the international relations of Germany and America. Some days ago the J. H. Flickinger Company of San Jose, Cal., through agents in Berlin, made an extensive exhibit of their canned fruits. The Empress of Germany visited the exposition and stopped at this booth. She questioned the managers minutely in regard to their method of preparing the fruits and departed without stopping elsewhere.

An hour later the royal chamberlain returned and gave an extensive order for immediate delivery to the palace. The exhibitors of other nations were green with envy. What makes more impressive the appreciation of the German Empress is the fact that the Queen of England, through her private secretary, and also the Princess of Wales, only a few weeks ago sent an unsolicited testimonial to the J. H. Flickinger Company, stating that the California fruits were "the best they had ever tasted." Following this the striking action of the greatest housewife in Europe in preferring the Californian product over European stock has excited world-wide attention to the excellence of the fruits. It has even affected the general tone of the press toward America and may promote a good feeling hitherto lacking.

Export of Horses from Turkey.

Minister Straus writes from Constantinople, under date of May 18, 1899, that, according to a note verbale from the Ministry of Foreign Affairs in Turkey, the regulations prohibiting the exportation of horses from that country have been removed and a duty of 5 Turkish liras ($24) will be charged upon each horse exported. As inquiries are made from time to time regarding the export of Arab horses from Turkey, adds Mr. Straus, this information may be of interest.

Robert Bonner, the former publisher of the *New York Ledger* and owner of many famous horses, died at his home in New York July 6th. Mr. Bonner had been ill for some months, yet was able to be about until ten days ago. His death was due to a general breaking down of the system.



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differs from all others in these particulars: It throws a continuous, unbroken stream without pulsation, vibration, water hammer, air chamber, counter balance, or fly wheel. It has no dead centers or cranks. All work comes on the lift stroke, moving vertically on the center line. We need no anchor bolts with our pumps. Requires less power. Is a perfect pump.

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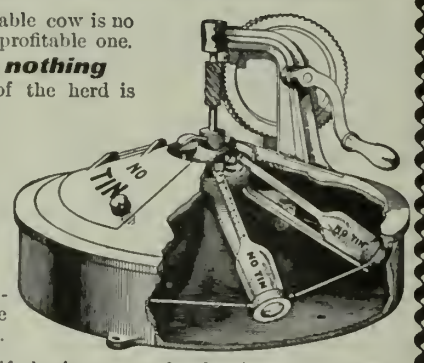
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PATENTS



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California Wine Exhibit at Paris.

As the result of a conference on the part of the Paris Commissioners with Dr. H. W. Wiley of Washington, the *Chronicle* says it has been decided that 30,000 bottles of wine will be required from California exhibitors at the World's Fair. Of these, 14,000 bottles will be kept on hand for advertising purposes.

Dr. Wiley, who represents the National Viticultural Commission, says the allotment of space to the United States will contain one dozen cases of wine, each holding 1000 bottles. It has been decided to allow California 8000 of the 12,000 bottles. As one bottle for each bottle in the case must be sent to the wine juries, another 8000 bottles will be required for that purpose. With the 14,000 kept on hand for advertising purposes, a total of 30,000 bottles will be required. The number of bottles needed will be a surprise to California growers, as the first reports indicated that this State would fare poorly. It was expected that only 200 or 300 bottles in all would be sent. In the Paris exposition of 1889 two cases of California wine were exhibited, and each was awarded a medal. The California wine will not be exhibited as a State display, but will be included in the national exhibit and will be prepared as if for the regular trade, each bottle to bear the name of the grower. Photographs of the wineries, the vine-bearing acreage and descriptions of the properties will be arranged in portfolios which will be prominently displayed. Many of the wine growers and brandy distillers will send thousands of miniature bottles for free distribution at the fair.

Dr. Wiley is anxious that there should be a good exhibit of California champagnes as well as of still wines. The commissioners have decided not to elect a superintendent of exhibits. They will perform that work themselves. Dairy products, forestry and fisheries are to be added to the departments already covered.

No Sheep on the Reservations.

STOCKTON, July 7.—The Interior Department has decided not to allow the sheep men to pasture their flocks on the Government reservations, though every effort has been made by Congressman de Vries to suspend the regulations which prohibit the stock from grazing on public parks. To-day the Congressman received a letter informing him that, after due consideration of the matter, the commissioner refused to approve the permits, because such action would be inconsistent with decisions heretofore given on the subject of sheep grazing within forest reservations.

The sheep owners have been making a persistent effort to drive their stock on to the parks in Stanislaus, Alpine, Calaveras and Amador counties, but the Government rangers turn the flocks back and order herders to keep outside of the bounds of the reservation. Two or three times fights have been narrowly averted, as the indignant owners took a hand and insisted that their stock be allowed to graze on the fine pasture in the Sierra. Owing to the dry season last year, the rangers were lenient, and the sheep raisers started their stock towards the parks early this season, believing that they would be admitted.

The Government holds that the sheep injure the young trees and undergrowth, but those familiar with the facts say that stock is a benefit to the forests.

$100 Reward, $100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is Catarrh. Hall's Catarrh Cure is the only positive cure known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of testimonials.

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Hall's Family Pills are the best.

Looking for Forage Plants.

F. Lamson-Scribner, chief of the division for the study of grasses and forage plants of the Department of Agriculture, has been attending the convention of agriculturists. He said to a reporter that he had come West to extend his work of investigation to the Pacific coast and incidentally to attend the session of the Association of Americal Agricultural Colleges and Experiment Stations. "Heretofore our work has been confined to the Southern States and the Atlantic slope, and it has been so eminently successful that I have determined to broaden the field of our labors as far as our appropriation will permit. I am anxious to see the work extended to our new possessions in the South and the Pacific. Many useful grasses and forage plants adapted to cultivation in the Gulf States, where forage is greatly needed, are to be found in the West Indies, and I believe much good might result from an investigation of the grasses and forage plants in our new Pacific possessions."

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING JUNE 27, 1899.

627,635.—POSTAL SIGNAL BOX—F. C. Bates, San Jose, Cal.
627,769.—HOISTING MACHINERY—H. C. Behr, S. F.
627,637.—CULTIVATOR—J. A. Bilz, Pleasanton, Cal.
627,960.—WALL FOR BUILDINGS—J. Brower, S. F.
627,846.—IRRIGATOR—W. A. Dunton, Los Angeles, Cal
627,639.—TRICYCLE—J. C. Eames, S. F.
627,490.—TUBE CUTTER—J. P. Esveldt, Dartford, Wash.
627,640.—SCREEN—J. A. Fugate, Irving, Ogn.
627,777.—NOZZLE—H. H. Gorter, S. F.
627,921.—HAT FASTENER—H. S. Grace, S. F.
627,937.—DYNAMO—L. O. Lieber, Los Angeles, Cal.
627,861.—WEIGHING MACHINE—S. P. Mackey, Ridgefield, Wash.
627,737.—RETORT—G. W. McLeod, Tacoma, Wash.
627,757.—BED LOUNGE—C. H. Mullen, S. F.
627,527.—BURGLAR ALARM—A. P. Prichard, Tacoma, Wash.
627,762.—TEMPORARY BINDER—C. K. Rosenberg, S. F.
627,883.—SWITCH—T. A. Smith, Azusa, Cal.
627,562.—PROPELLER—W. Wood, Banta, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

POSTAL BOX SIGNALS.—Francis C. Bates, San Jose, Cal. No. 627,635. Dated June 27, 1899. This invention relates to a device which is called a "postal box signal." It is especially designed for use in connection with boxes for receiving mail matter in rural districts, where the postmen have to traverse considerable distances, and where the boxes are frequently at some distance from the regular line of travel. It consists of one or more signals connected with the box and a means for displaying the signal by the act of introducing postal matter into the box, so that it can be seen from a distance whether there is anything in the box to be collected, and in the same manner a signal is displayed to indicate to those using the box whether any mail matter has been placed in the box for them by the carrier.

CULTIVATOR.—John A. Bilz, Pleasanton, Cal. No. 627,637. Dated June 27, 1899. This invention relates to improvements in cultivators of that class in which the cultivating teeth are attached to a frame having V-shaped or convergent sides. It consists in the employment of independent detachable boxes having sockets through which the standards of the cultivator teeth are vertically slidable and adjustable without being capable of turning from side to side. The faces of the boxes are inclined with reference to the sockets in which the standards move, so that when they are fixed to the inclined beams of the frame the standards and cultivator teeth will always remain in line parallel with the line of travel of the cultivator.

TRICYCLES FOR INVALIDS.—John C. Eames, San Francisco. No. 627,639. Dated June 27, 1899. This invention relates to improvements in tricycles of that class which are manumotive, or propelled by hand power. The frame consists of a rectangle formed of the front main axle, a rear bar is parallel therewith and has longitudinal connecting bars; a steering wheel socket with an inclined brace rod connects the rear bar of the frame with the base of the socket, and tubular vertical seat-supporting posts extend upwardly from opposite sides of the center of the axle. A rear bar and upwardly converging bracing bars connect at their lower ends with the front and rear bars of the frame, their upper ends uniting to form a support for the crank axle journal boxes, with independent crank axles mounted in said boxes and power connections between the crank axles and the front axle.

BED LOUNGES.—Charles H. Mullen, San Francisco. No. 627,657. Dated June 27, 1899. This invention relates to certain improvements in that class of furniture known as bed lounges, and it consists of a seat and back flexibly hinged together, automatically foldable legs having opposite ends in the plane of the movement of the back and intermediate portions turned at right angles to said ends, and means connecting said intermediate portions, said legs connected with the seat and the back and extensible to support the back in its horizontal position. A containing box forms a base and support for said superstructure, with hinges connecting the rear of the seat with the coincident edge of the box, and hinged connecting links by which the movement is limited.

Gain A Second

—when your horse is fast seconds count on a record.

A little stiffness or soreness in leg or body may lose seconds and hence lose a record. Chills, congestion and inflammation are the enemies of speed.



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Industrial Notes.

—The cut in freight rates from the Atlantic to the Missouri river has got as far west as Utah.

—The total assessed valuation of the city of Los Angeles, Cal., in 1898 was $61,099,307; in 1899, $65,127,662.

—The Mercantile Trust Company of San Francisco has taken $1,000,000 of the bonds of the Yuba, Cal., Electric Power Company.

—The U. S. Navy Department has given the contract for the Mare Island, Cal., drydock to the Atlantic, Gulf & Pacific Company for $729,000.

—The contract for the construction of the Government building at San Francisco of Raymond granite has been awarded to the Bentle Construction Co. of Milwaukee, Wis., at $802,500.

—All the tin plate works in the country were closed at midnight on the 30th ult., as a result of the failure to settle the wage scale at the conference in Chicago. Fifty thousand persons will be made idle by the shutdown. The Workers' wage committee made a demand for an advance of 20%. The present wage scale expired on June 30.

—Col. B. F. Allen, supervisor of the five forest reservations of southern California, has from the Federal Government an allowance for the fiscal year beginning July 1 of $15,000, which will enable him to do more effective work than heretofore. He selects men to act as rangers on the reservations. There are now thus employed fifty men.

—At Visalia, Cal., electricity generated at the Mount Whitney power house has been turned on. The power is supplied by water from the east fork of Kaweah river, diverted at Oak Flat, forty-five miles from Visalia, at an altitude of 2400 feet. The present capacity generates 1800 H. P. Power is transmitted to Porterville, forty-three miles.

—The Clear Lake, Cal., Electric Power Co. estimates the entire cost of the installing plant, ready for operation, at $656,095.07, including $108,800 for a reserve steam plant. The annual operating expenses, exclusive of the steam plant, are estimated at $55,490; the cost of operating the steam plant three months, $28,670. It is calculated that operating the plant at its full capacity, 4000 H. P., will bring an income of $228,000. The company proposes to issue $850,000 in 6% bonds to cover the construction and furnish a reserve fund.

—H. R. Robertson tells *Wood and Iron* that the Stella lumber raft, which is to go out from Washington by sea to San Francisco, is being built in a cradle 96 feet long and will contain 550,000 lineal feet of logs. These, computed to board measurement, make 6,000,000 feet of lumber. The two building on Puget sound are each 144 feet long, and each will contain 750,000 lineal feet, or 9,000,000 feet of lumber. No saw logs are contained in these rafts; they are constructed entirely of piles and spars. The Southern Pacific has just given him a $60,000 order for logs to be used on their lines in California. He says that sawmills will be erected in San Francisco for the purpose of turning log rafts into lumber piles.

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"Greenbank" Powdered Caustic Soda and Pure Potash.
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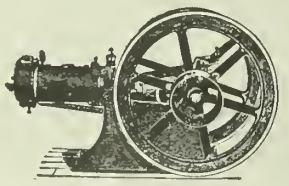
To Apple Packers!



The Tangent Fruit Brushers,
Pat. March 8, 1898, and April 11, 1899.
These machines will put a high polish on apples and greatly improve the appearance of the fruit, without any injury, and at a very slight expense.
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187 telegraph poles thrown by storm across a stretch of Page Fence on the Lake Shore Railroad did not break a lateral wire.
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Patrons of Husbandry.

San Jose Grange.

At the last meeting of San Jose Grange, Worthy Master Leigh presided and Mrs. Worthen acted as Secretary, states the *Mercury*.

At the beginning of the meeting a short literary programme was rendered as follows: Select reading, Mrs. N. A. Saunders; music, Miss J. Fuller; reading, Mrs. M. Barnes; story, F. W. Langdon; song, by the Grange.

This was followed by a brief speech on humane education by Prof. Childs, in which he defined its principles and emphasized the necessity of having it taught to the young. It was decided to continue the discussion of this subject at the next meeting.

The subject of a free open market in San Jose was then taken up and discussed, Messrs. Hurlburt, Childs, Briggs and Leigh participating. The general opinion was in its favor. The discussion will be continued next week.

Progressive Grange.

There was a large attendance at the last meeting of Progressive Grange, according to the Healdsburg *Tribune*. Twenty-eight candidates received the third and fourth degrees of the Order. At the close of the initiation ceremonies a harvest feast was enjoyed by the Grange members.

After the banquet room had been cleared the younger members of the Grange enjoyed the afternoon in dancing. A character recitation was given by Henry Jones, who made a thirty-mile walk from the coast rather than miss the Grange meeting.

Napa Grange.

At the last meeting of Napa Grange, as reported by the *Register*, there were conferred the first and second degrees upon Mr. and Mrs. J. H. Parr, Ralph Butler and C. G. Bates. Mrs. Henry Chapman and John Ames were initiated in the third and fourth degrees.

At the next meeting of the Grange an open public session will be held, on which occasion the Rev. W. A. Waddell will give an address on "Brazilian Agriculture."

The Canners' Combine.

The directors of the California Fruit-Cannery Association held a meeting in San Francisco preparatory to final organization, which will be completed on the 17th inst. The options will expire on the 15th inst., but it was reported that not one of the fruit canners has signified and intention to withdraw.

The list of the subscribers shows that the men who will have charge of the business of the concern are not fruit men, but those who have had the business sense to control large interests at an immense profit. Conspicuous among these men are Louis Sloss, William Gerstle and Goodall, Perkins & Co. The capital stock represents 35,000 shares and $3,500,000 in money.

Since the work of appraisement was begun in the interest of the trust every cannery in the State has been visited, with the result that a number of small concerns have been rejected. They were anxious to sell at an absurdly high figure. The last report notes the acceptance of the following firms: A. F. Tenny Co., one plant, Fresno; California Fruit Preserving Co., two plants, Oakland and Biggs; Courtland Packing Co., one plant, Sacramento river; Cutting Fruit Packing Co., four plants, San Francisco, Santa Rosa, Colton and Santa Ana; Fontana & Co., three plants, San Francisco, Hanford and Healdsburg; Rose City Canning Co., one plant, Santa Rosa; King-Morse Canning Co., two plants, San Francisco and San Leandro; Marysville Fruit Packing Co., one plant; Marysville; Oakland Preserving Co., two plants, Oakland and Milpitas; Sacramento Packing Co., three plants, Sacramento, Visalia and Ventura; San Jose Fruit Packing Co., one plant, San Jose; Southern California Packing Co., one plant, Los Angeles.

Government Crop Report.

WASHINGTON, July 10.—The monthly grain crop report, issued to-day by the Agricultural Department, says: Primary returns to the statistician of the department on the acreage of corn planted indicate an increase over the acreage harvested last year. Of the twenty-one States having 1,000,000 acres or upward in corn last year, all but Virginia, Kentucky and Ohio show an increase, and the decrease in the three States named is very small. The average condition is 86.5, as compared with 99.5 on July 1, 1898, 82.9 at the corresponding date in 1897, and 91.1 the mean of the July averages for the last ten years.

The condition of winter wheat has further declined during the month of June, being 85.6 on July 1st, as compared with 85.7 on July 1, 1898, 81.2 at the corresponding date in 1897 and 82.4 the mean of July averages for the last ten years.

The average condition of spring wheat is 91.7, as compared with 91.4 one month ago, 95 on July 1, 1898, 91.2 at the corresponding date in 1897, and 88.7 the mean of July averages for the last ten years.

The average condition of winter rye is 83.3, as compared with 93.8 on July 1, 1898, and 90.5 the mean of July averages for the last ten years.

The average condition of the oat crop is 90, as against 88.7 one month ago, 92.8 on July 1, 1898, 87.5 at the corresponding date in 1897, 87.7 the mean of the July averages for the last ten years.

The average condition of barley is 92, as against 91.4 last month, 85.7 on July 1, 1898, 88.5 at the corresponding date in 1897, and 88.3 the mean of the July averages for the last ten years. The condition in New York and California is 88, in Wisconsin 98, Minnesota 96, Iowa 100, South Dakota 95 and North Dakota 93.

There is an increase of 1% in acreage in potatoes and the crop promises well.

The wool report indicates the average weight per fleece as being 5.45 pounds, an increase of .15 of a pound over last year.

The proportion of the wheat crop of 1898 still on the farms is reported at 95.5%, or about 64,000,000 bushels.

✦ FANCY POULTRY. ✦
We keep all the leading varieties. Have 60 breeding yards. Why not improve your stock. Man'f's of the Improved Pacific Incubator. Absolutely self-regulating, hot water. Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.* PACIFIC INCUBATOR CO., 1317 Castro St., Oakland, Cal.



THE VETERINARIAN.

Answers by Dr. Creely.

TO THE EDITOR:—I have a mare which had a large rising between the ear and throat a little more than a year ago. I opened it and it discharged a great deal of pus for a week or more and then healed up. Since that time a soft bunch has been growing just where the sore was. It is about 3 inches long and 1 inch in diameter, and still growing. Blistering does no good. What will remove it?

I have another four-year-old mare which has a hard knot, half as big as my fist, between the eye and nose. Blistering does not reduce it. What will remove it?

San Luis Obispo. W. F. WOOD.

The first case is an indurated gland. Open it freely and deeply and syringe with one-half alcohol and one-half tincture iodine. Apply externally pure tincture of iodine.

The second trouble is due to an ulcerated tooth. A veterinarian should be called in to trephine the enlargement.

Bloody Murrain.

TO THE EDITOR:—Can some one give me a cure for bloody murrain in cattle? I have lost five of my dairy cows within six weeks. They only live about four days. HARRY JOHNSON.

San Antonio, L. C., Mexico.

Bloody murrain; aphthous; or vesicular epizootic; a contagious, eruptive fever affecting cattle, sheep, pigs, and sometimes poultry. Separate the diseased ones; use disinfectants and feed soft, digestible food. Keep inflamed, abraded surfaces clean; moisten occasionally with alum, borax or zinc sulphate dissolved in glycerine. Apply zinc and iodoform ointment to udder and feet. Milk the cows frequently and prevent lodgment in udder of stale milk. Give a teaspoonful of each—chlorate and nitrate of potash, mixed with the mash or drinking water, when the fever is high. E. J. CREELY.

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Breeders' Directory.

Horses and Cattle.

HOLSTEINS—Winnere of every 7 daye' butter conteet at State Fair 1898 1st & 2nd for aged cows, 4-yr., 3-yr. & 2-yr.-olds; *21 Jerseys & Durhams competing.* 4th year my Holsteins have *beaten* Jerseys for butter. Stock for eale; also pigs. F. H. Burke, 626 Market St., S. F.

BULLS—Devons and Shorthorne. All pure bred and regietered. Fine individuale. At pricee to suit the times. either eingly or in carload lote. Oakwood Park Stock Farm, Danville, Cal.

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J. H. GLIDE, Sacramento, Cal. Have 70 choice Durham Bulls for eale.

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J. R. CATLETT, Pleasant Grove, Cal. Breeder of fine S. C. Brown Leghorns and Mammoth Bronze Turkeye. Leghorn egge 50c for 13 or 11 eettinge for $5.00. Turkey egge 25c each. Write for wante. Satiefaction guaranteed.

SANTA TERESA POULTRY FARM, Eden Vale, Santa Clara Co., Cal. Illuetrated catalogue and guide free. 'Twill interest and pleaee; eend for it.

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T. W. THOMSON, Santa Cruz, Cal. Thoroughbred Southdcwn Bucks and Ewes for Sale.

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THE BEST FEED FOR STOCK, CHICKENS AND PIGS.
For sale in lots to suit by
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SCORE OF FOUR GREAT BULLS,

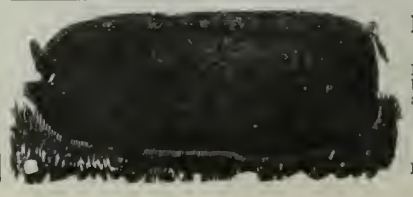
Furnished by Maj. Henry E. Alvord, of the Animal Bureau, Washington.

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Adopted by the American Jersey Cattle Club at the Annual Meeting, held May 6, 1885.

	Perfection.	El Toro of Y. B. No. 24,434. Calif. State Fair, Sept. 1897.	Mahkeenac 2d. Madison Square Garden Nov. 1895.	Major Appel Pogis. Madison Square Garden, Nov. 1895.	Pedro. Madison Square Garden, Nov. 1895.
		Score.	Score.	Score.	Score.
1—Head small and lean; face dished, broad between the eyes and narrow between the horns	2	2	2	2	1
2—Eyes full and placid; horns small, crumpled and amber colored	1	¾	1	1	1
3—Neck thin, rather long, with clean throat and not heavy at the shoulders	8	7¼	7	7	5
4—Back level to the setting of the tail	1	1	1	1	¾
5—Broad across the loin	6	6	5	6	6
6—Barrel long, hooped, broad and deep at the flank	10	10	7	8	8
7—Hips wide apart; rump long	10	9	8	9	8
8—Legs short	2	2	2	2	2
9—Tail fine, reaching the hocks, with good switch	1	1	1	1	¾
10—Color and mellowness of hide; inside of ears yellow	5	4½	5	4½	3
13—Teats rather large, wide apart and squarely placed	10	8½	10	8	2
15—Disposition quiet	5	5	5	4	5
16—General appearance and apparent constitution	10	10	9	10	9
	71	67	63	63½	52

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FRUIT MARKETING.

Placer Fruit Growers Organize.

TO THE EDITOR:—I inclose herewith a clipping from the Newcastle *News*, which is self-explanatory.

I understood that a complete report of this meeting was given to the Associated Press, but have not seen it appear in the papers.

A representative and enthusiastic meeting was held in Newcastle and was unanimous in its vote to proceed with the work of organizing Placer county along the lines of the Fresno Raisin Growers' Association. We have the assurance of other communities that they will also adopt the same plan, with a view later of embracing all of this part of the State in one organization. Interest in Placer county in the movement to organize is constantly increasing in strength.

There is little doubt that by Jan. 1st, 1900, 60% or 70% at least of the Placer county growers will be members of the association.

The plan is to make the crop contract binding only when about 70% of the growers within a considerable area have signed it, and to keep up a constant agitation with that end in view. For the present Placer county will be the base of operations.

G. GERALDSON,
Sec. Newcastle Meeting.

Newcastle, July 5.

THE MEETING.

Representative growers from various points throughout the county assembled at Fraternal hall, Wednesday afternoon, June 28th. The meeting organized by electing C. H. Kellogg chairman and G. Geraldson secretary.

The articles of incorporation as adopted by the meeting of June 21st were called for and were read by the secretary. They were discussed informally and at considerable length by Messrs. Miles, Threlkel, Madden, Hector, Adams, Barton and others. When the chair decided that about the maximum number for the day were present, business was taken up in form.

On motion the articles of incorporation were then adopted as amended.

On motion the mass meeting then adjourned and reconvened as the first meeting of the shareholders of the Fruit Growers' Association of Placer county.

The meeting organized by electing the same chairman and secretary and proceeded to elect a board of directors to serve until the commencement of the next business year—about Feb. 1, 1900. The following were elected: G. L. Threlkel, G. Geraldson, C. H. Kellogg, C. T. Adams and W. R. Fountain.

On motion the sense of the meeting was declared to be in favor of a two-year crop contract instead of one for a longer time. All other details of the crop contract and by-laws, and also the matter of an organizing fund were referred to the board of directors with instructions to prepare complete plans and to submit them at the next meeting.

The secretary was instructed to immediately forward the articles of incorporation, duly certified, to the office of the Secretary of State.

The plan adopted is the same as that of the Fresno Raisin Growers' Association and those interested say the foundation is now laid for a bona fide growers' organization. They also say the sentiment of the growers is strongly opposed to a compromise of any kind and that they fully intend to push the fight through to success even if it takes two or three years of hard work.

Prune Combine Organized.

The Pacific Coast Fruit Association, commonly known as the "prune combine," has organized upon a permanent basis. According to a report in the San Jose *Mercury*, the Santa Clara Fruit Exchange stockholders at their meetings have been unanimous in favor of the Exchange." Said Theodore Hersey: "If that is so they will unite with us while the officials can go their way. Their action should not retard this movement. Without the growers they can do nothing, and with the growers on our side there is no reason why we should not go right ahead notwithstanding those officials." This sentiment, as well as that of F. W. Crandall, was much applauded.

"Whether these men have seemed to have been in accord with us while they have secretly done all they could against the association, you who live here can best judge," said Chairman Delmas. "As the matter stands the field is now open, and it is for us to appeal to individual growers to become members of the association."

A motion by F. W. Crandall that each stockholder of the association consider himself a missionary to consider new members was passed.

Professor Childs stated that the newly elected directors would redouble their efforts, and hold meetings in all parts of the county in the interest of the association. It was hoped that all members would see that these meetings were largely attended.

It was moved by F. M. Righter, seconded by Thomas Hardy, that the scope of the Exchange should be widened so as to include the handling of apricots, peaches and other fruit as well as prunes. Professor Childs favored this motion and it was passed unanimously.

The meeting then adjourned. The permanent Board of Directors, who will be regularly elected at the annual meeting of the directors next May, and who will take up their duties immediately as provided by law through the resignations of the temporary directors, are as follows: L. F. Graham, T. Kirk, George M. Bowman, S. R. Johnson, C. W. Childs, George W. Hume, J. H. Henry, W. E. Woolsey.

Grape Prices at the South.

The State Loan & Trust Company sent its agent, H. J. Woollacott, to San Francisco to meet representatives of the California Wine Company. The Los Angeles *Herald* says Mr. Woollacott discussed the situauion with that large concern, and was empowered to offered to southern growers $11.75 per ton for all grapes running 24% sugar, the growers to guarantee at least 50% of the crop under a five year's contract. The offer was in advance of prices paid for years past. The local winery companies scented trouble in the atmosphere, and, headed by the Sierra Madre Vintage Company, took steps to prevent the advent of the San Francisco corporation.

In the meantime Mr. Woollacott, for the northern company, had secured a lease of the Rose Winery Company's establishment, and many improvements were planned in order to take care of the entire southern crop in case the bid was accepted. A meeting of all parties concerned, together with representative grape grows was held Saturday, when Mr. Woollacott laid before the members the offer of the California Wine Company. The Sierra Madre Company immediately offered to contract for crops for one year at $12 per ton for white and $13 for black grapes, the same to run 22% sugar. Enough of the heavier grape growers accepted latter offer, and signed one-year contracts.

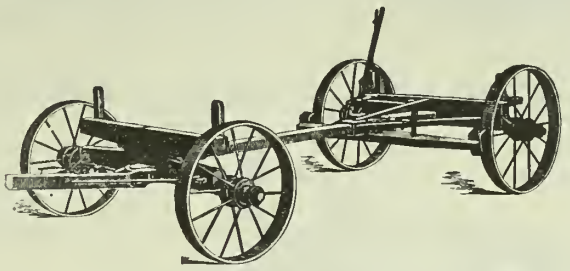
The Sierra Madre people can handle but 40% of the local crop, and whether the other southern wineries will pay the same is a question that the future will settle. While the local growers accepted the highest bid in sight, the wiser ones believe that the bid of the San Francisco Company, insuring a good price for five years, should have been accepted, and that the result would have justified the move. Under the circumstances, the California Company will not enter the local field and the Rose Winery will not be opened.

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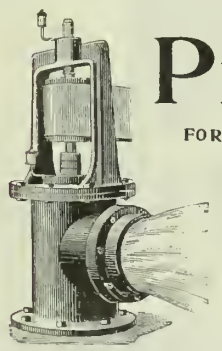
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Fruit Prices at Various Points.

SAN JOSE, July 9.—Very little is being done in the driers on 'cots as yet, as the canneries are taking most of the crop. Buyers were out on the East Side the first of the week offering from $45 to $52 for canning apricots. Early peaches are in evidence everywhere. The driers expect to do a big business in this fruit when it begins to come in. From $20 to $25 is being offered for peaches, but few lots are yet reported to have been sold. Prunes are making an appearance which justifies the orchardist to increase the size of his expectations. The prospect is for large sizes. In many orchards the trees are loaded to the ground by the weight of the fruit, and in many orchards the limbs are being broken off. Buyers are already offering $30 per ton, and at the same time are intimating that $40 or perhaps more may be expected for choice fruit.—Mercury.

EDENVALE, July 8.—Already our orchardists are beginning to pick apricots, and by another week they will be very actively engaged in the business. Many growers have sold their crops to various buyers at prices ranging from $40 to $45 per ton.

NILES, July 7.—Apricots are moving in considerable quantities this week. Tuesday the first carload lot was shipped to the Santa Rosa cannery; two carloads went forward Wednesday and two Thursday. Most of these were contracted for at $50 f. o. b.—Herald.

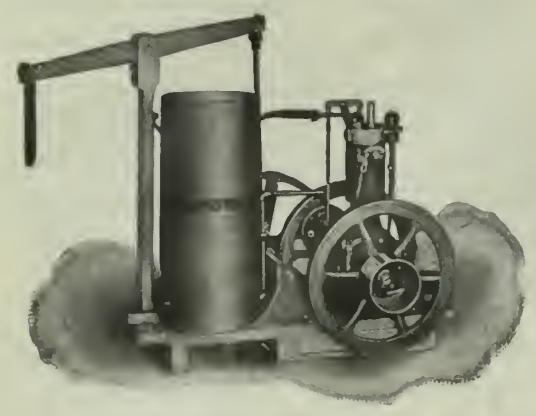
YUBA CITY, July 7.—The manager for Hunt Bros. cannery of Haywards has been in this vicinity some time and last week contracted for the following crops of Cling peaches: Giblin Bros. of Yuba City, 200 tons; J. S. Johnson of Marcuse, 180 tons, and the Marcuse orchard, 150 tons, besides other smaller lots. The price has not been made public, but we understand that it is in the neighborhood of $40 per ton.—Farmer.

The best sale of pears this season in this vicinity is that made by Julian Trembly, the veteran grower, who has disposed of his entire crop of Bartletts at $50 a ton. He has a large crop and they are choice in every respect.

HOLLISTER, July 7.—John Dryden shipped the first apricots of the season from this section on the 27th. He received from the San Francisco cannery $37.50 per ton.

OAKLAND, July 7.—Of apricots, Alameda county will produce 2000 or 3000 tons this year, and the growers are getting good prices—that is to say, about $40 a ton. A part of the fruit sold this year runs six apricots to the pound, whereas eight to the pound was as good as the canners expected to get last year. In consequence of the greater abundance of large fruit, they are not picking any which goes below twelve or fourteen to the pound, while last year they took fruit that went in at seventeen to the pound.—Enquirer.

WATSONVILLE, July 6. — Sales of choice Pajaro valley apricots have been made up to $47.50 per ton. Canners have contracted for them.—Pajaronian.



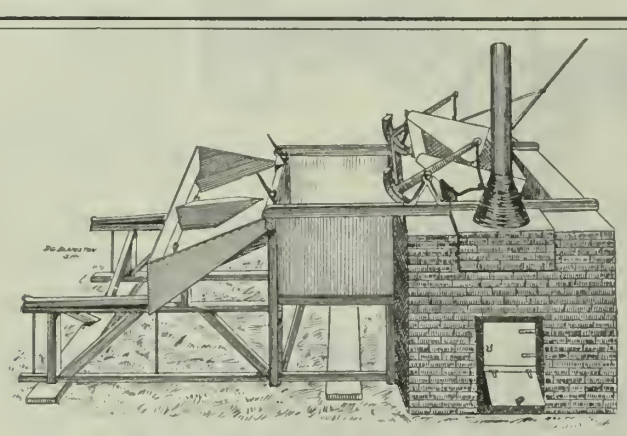
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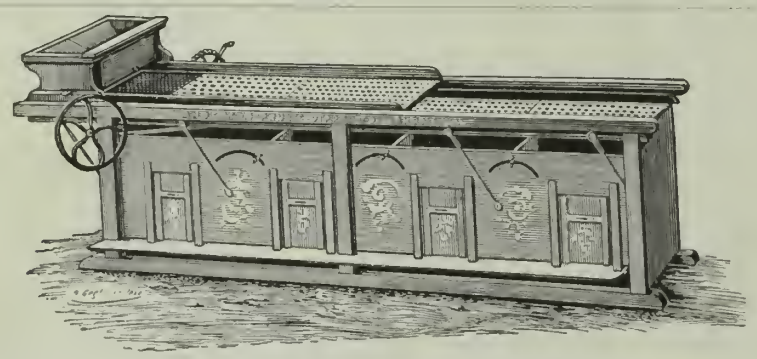
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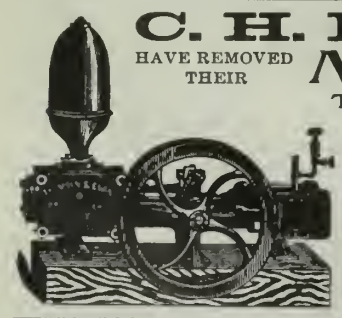


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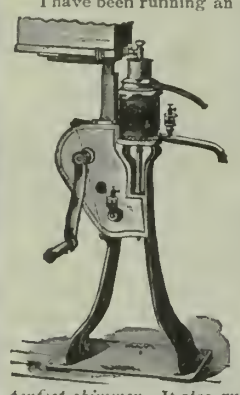
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No Repairs in Two Years. Skims Perfectly, Turns and Cleans Easily.

EVERSON, WASH, May 22, 1899.
I am well pleased with my U. S. Separator. It skims perfectly, is easy to turn and clean, and I regard the enclosed gears and self-emptying bowl as a great improvement over others. *It has run almost two years without a cent of repairs* and it is as good as new. W. T. GERMAIN.

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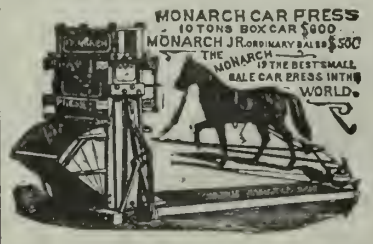
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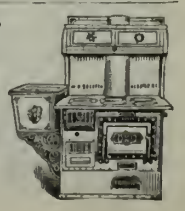


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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 4. SAN FRANCISCO, SATURDAY, JULY 22, 1899. TWENTY-NINTH YEAR. Office, 330 Market Street.

Youth as a Factor in Egg-Laying.

In the PACIFIC RURAL PRESS of July 1 we gave the general summary of an important set of experiments in poultry feeding at the Utah Agricultural Experiment Station. There are some features of the work as conducted for the station by Mr. James Dryden, the poultry manager, which invite fuller description, and to call special attention to them we reproduce some of the engravings which appear in the bulletin which gives the full record of Mr. Dryden's work.



While Brown Leghorn Pullets Laid These Eggs,



Same Number of Year-Olds Laid These



and Three-Year-Old Brahmas Laid These.

The pictures on this page show most forcibly the advantages of youth in the laying flock. The records of the experiment to show the comparative value of pullets, year-olds and old hens in egg production was not kept in eggs, but the result was translated into eggs to more sharply impress the reader. The record was in percentages of profit from each class of layers, but the showing in the form of eggs is certainly more impressive than the percentage table.

As Mr. Dryden describes his results, it appears that pen 4 of Brown Leghorn pullets in 1896-7 made a record of 181¼ eggs per fowl, worth $1.88, at a food cost of 62 cents. During their second year, under nearly similar conditions as to feeding and management, they lain 114.2 eggs, worth $1.11, at a food cost of 66½ cents. Pen 3, Brown Leghorn pullets, in 1896-7 made a record of 157¼ eggs, worth $1.68, at a food cost of 61½ cents. During their second year they laid 150.8 eggs, worth $1.68, at a food cost of 62.1 cents. During the first year pen 4 produced eggs at a cost of 4.1 cents per dozen, pen 3 at 4.6 cents per dozen. During the second year the cost was 7 cents and 4.9 cents respectively. During the first year the two pens of three and four-year-old hens produced eggs at 9.9 cents without exercise and 6.9 cents a dozen with exercise. These two pens were discontinued during the second year. Taking the average of the two—pens 3 and 4—their returns as pullets were 40% better than as year-olds, figuring on the food cost per dozen of eggs.

The above are the data which are translated into egg baskets. When the size of the egg is taken into account there is a gain on the side of the older birds. Mr. Dryden shows that in contrasting the weights of the eggs of pens 3 and 4 of Brown Leghorn pullets in their first and second years, there is very little difference noted. The eggs from pen 3 as pullets weighed 1.49 pounds per dozen, as against 1.55 as year-olds. Pen 4 as pullets laid eggs averaging 1.42 pounds per dozen, and 1.46 pounds as year-olds. Taking pen 3, 30 dozen (a caseful) of second-year eggs would be equal in weight to 31.2 dozen of the first-year eggs. In the case of pen 4 there is less difference; 30 dozen of their second-year eggs are equal to 30.8 dozen of their first-year eggs. The pullets of the second year laid heavier eggs than the pullets of the first year. The pens without the exercise of scratching out their food in 6 inches of litter laid eggs of greater weight than those with the exercise. This confirms the results of the previous year. Pen 5 laid a very small egg compared with the other pens of Leghorns. A case of eggs from pen 5 would weigh 37.5 pounds against 45.6 pounds from pen 1; in other words, 30% lighter. This goes to prove that eggs from different strains of the same breed of fowls vary much in weight. The heaviest eggs were laid by pen 8 of Light Brahma hens, the eggs from this pen being 6.3 pounds per case of 30 dozen heavier than those of pen 1. Pen 1 exceeded any other pen in the average total weight of eggs per fowl for the year, the weight being 20.48 pounds. In food cost per pound of eggs, pen 3 of Brown Leghorn pullets leads, the highest cost being for pen 8, of old hens of Light Brahma stock.

How much food the layers ate per day during these experiments will be of interest to beginners at least. Mr. Dryden shows the average weight in ounces of the different foods fed per day and the total food per day. By taking the average of the total food for the five pens of Brown Leghorns, it is seen that they consume 3.23 ounces per day per fowl. This would mean, on the same basis, 20 pounds total food for 100 Leghorn hens. The two pens of Brahmas averaged 4.55 ounces per day, equal to about 28½ pounds for 100 such hens. Pens of Plymouth Rocks averaged 4.32 ounces per fowl, equal to 27 pounds per day for 100 hens. It must be noted, of course, that the amount of food consumed varied at different seasons. This is due largely to the fact that a hen in "full flow" of eggs consumes more food than another such hen that is not laying.

As to the manner of feeding and the food used, the reader can also get some suggestions from Mr. Dryden's regime.

The exercise consisted in making the fowls scratch for their grain food, which was fed in a litter of straw about 6 inches deep. This straw was renewed once a week in winter and twice a month in summer. The pens without exercise were fed in boxes. There was no floor in the pens, and of course the hens fed in the boxes had considerable exercise by scratching in the ground, and in the outside runs they had more or less exercise in summer.

All pens were fed alike, except as to quantity. A warm mash was fed every morning. This was composed of bran, two parts; ground oats, one part; and ground corn, one part. This was seasoned with salt and a little cayenne. About 10 o'clock a little grain was fed, wheat one day and oats the next. Then in the evening, or late afternoon, wheat was fed, all they would eat up clean. Three times a week cut bones, or butchers' scraps, were fed. During the winter the green food consisted of alfalfa hay leaves thrown in the pens, and in summer green alfalfa and clover were fed. In the early spring a section of the yards was covered with a good growth of rye, which furnished all the green food necessary for several weeks. After that was eaten down, green alfalfa and clover were cut and thrown into the pens. Coal ashes were kept in a box in each pen most of the year, as were also ground oyster shells.

The shade for the fowls in midsummer was furnished by a growth of Russian sunflowers in a section of each pen. There was no other shade available, but trees have now been planted which will ultimately shade the buildings from the sun.

THE exports of provisions, including cattle and hogs, from America for the year 1898 were valued at $190,006,086. Among the items which go to make up this grand total were 376,891 cattle, 148,100 sheep, 1,236,809 quarters, or about 260,000,000 pounds of fresh beef, 618,275,000 pounds bacon, 217,346,000 pounds ham, 129,418,000 pounds pork and 705,346,000 pounds lard.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, July 22, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The week's visiting by the agricultural college and experiment station people was a notable success all along the line. Most marked welcome and hospitality was extended to the visitors wherever they went. Saturday at the State University; Monday at Santa Rosa, Ukiah, Asti and San Rafael; Tuesday at Fresno; Wednesday at Oroville, Yuba City and Woodland; Thursday on the islands of the San Joaquin; Friday at Palo Alto, San Jose, and Gilroy; Saturday, Del Monte and the Salinas sugar factory—these were the main points visited and from these points local excursions by team and rail and boat filled the hours completely. The visitors were profuse in their thanks for the opportunity to see California's rich resources and unique industries, and we can be sure that in thirty-five States and Territories we have now friends who have actually seen our State at play and at work and will not hesitate to tell the truth about it at every convenient time and place. We doubt if California has ever had the advantage of introduction to advanced agricultural and educational circles as it has this year by the great visitations which centered at San Francisco and Los Angeles.

Ships are scarce and freights are high and wheat goes off a little in consequence. Barley is, however, strong for shipment; two cargoes go this week—brewing barley, not Chevalier. Mill feeds are unchanged, but hay is easier under free receipts. Hogs are higher, selling up to 6c for choice packing hogs. Mutton is firm but unchanged; beef steady and quiet. Choice butter is firmer with an advance of 1c per lb. for the best grades. Eggs have also advanced 2c or more for select lots. Cheese is a little firmer. Beans are firm, with pink beans higher than last week. Potatoes have tumbled. Shipping from the city has declined owing to coming of local supplies at various points. Onions are also lower. Dried apricots are firm, and the early dried peaches are selling high. Pears are scarce; Bartletts selling above $45. Plums are selling at $20@25 per ton. Wools very strong and buyers are paying prices in the country in advance of city figures. They evidently want wool. Bids on hops are hardly up to growers' views. The impression prevails that choice hops will sell well.

Sweet Clovers in California.

Mr. Jesse Poundstone of Colusa gives some very interesting observations and experiments with sweet clover in his paper which is printed upon another page of this issue. As he clearly indicates, this plant is one of the most grievous weeds which has gained entrance to California. This view is strange to Eastern people, for with them the plant has some standing as a forage plant, both for large animals and for bees, and the seed is found advertised in Eastern seed catalogues chiefly under one of its names, Bokhara clover. As a matter of fact it has very many names. Botanically the sweet clover with the yellow flower, which is the one Mr. Poundstone describes, is *Melilotus officinalis*, and there is a white flowered one which is *Melilotus alba*. The latter is the less objectionable one judged by its perfume and therefore not so bad in the wheat field, and yet it is too bad to be desirable, while the yellow one is rank and disagreeable and knocks a good fraction from the price of the wheat which is grown with it. Mr. Poundstone's suggestions as to the treatment of the pest in the wheat fields will be read with interest and we shall be glad to hear from others as to ways and means of escape.

There is another very hateful work which sweet clover, chiefly of the white-flowered species, is doing in the alfalfa fields. It is not liked by animals and they allow it to seed and distribute itself. The result is that the sweet clover spreads, and if something is not done it is apt to take the field. Over large areas of the State—for we personally know of it all through the San Joaquin and in southern California—it has come to be roundly hated by the alfalfa grower, and with very good reason. At first the grower is apt to befriend it. It starts into growth at a lower temperature than alfalfa and appears in strong clumps over the field while the alfalfa is still very small, and it makes a great show of thrift and verdure. Several growers have proclaimed it as a new, early and hardy alfalfa, and have wished their whole field was of that sort until they learn more of its character. Mr. Poundstone writes of the yellow-flowered melilot as an annual. The white-flowered is a biennial, with some disposition to live longer, and as it is chiefly the white which appears in alfalfa fields it cannot be so quickly eradicated by cutting before seeding time, as can the yellow. Still the continued cutting without opportunity for seeding is the only way to clear the field. Grazing, as already stated, will not accomplish this, because cattle will avoid it. On this point, also, we desire the experience of our readers.

On several occasions during the last twenty years melilotus has been sensationally announced in California as a dry land forage plant. We remember one occasion where a few plants were found growing rankly on a bar in a river in the northern part of the State, and the finder was so overcome with admiration of the plant growing so strongly on the burning sand of the river bar in midsummer that with much labor he gathered all the seed he could find and brought it to the city for distribution among those who had long waited for such a salamander of a forage plant. Probably the plant had struck its long roots down through the sand into the moisture of the river bed and obtained a reputation for drouth resistance which it did not deserve. It required much time for some of those who received the precious seeds to discover what a bad weed they had secured.

The white melilot has some reputation as a forage plant for bees, and upon this ground whatever claim it can substantiate to usefulness must rest. In wheat fields and alfalfa fields, evidently, all the melilots must be denounced and ways to arrest their progress are of direct practical importance.

Prof. Hilgard informs us that his European advices indicate that Bulgaria will have this year only 50% of a prune crop and Servia 70%. With reference to our exports of prunes to Europe, he looks upon Germany as an unexplored country in the prune line. During his visit in 1892 he was unable to find at Dresden, Berlin and Frankfort any prunes except the tart German prune and the costliest French prunes in glass. He believes that as soon as our prune product comes to be known the demand for it will be immense. This observation agrees fully with the reports of those who exhibited California products at Hamburg recently.

The Coming State Fair.

Preparations for the State Fair are advancing finely. It is reported that Director Matthews, when recently in Washington, secured assurance from Secretary Wilson that he would detail Major H. A. Alford, chief of the dairy division of the Department of Agriculture, to attend the coming State Fair in the interest of that department, and in consequence the Board of State Fair Directors will delegate to him the judging of the dairy classes exhibit. The California Dairy Association has also made arrangements to hold its annual convention in this city during the Fair, and Major Alford will address those present. Prof. Withycombe of the Oregon Experiment Station has been selected as judge of the farm stock exhibit. Prof. D. F. Fowler, one of the Farmers' Institute conductors of the University of California, will also be present during the Fair in the interest of department work, and a model scientific creamery and a model silo will be operated. The Sacramento County Exhibit Committee has already made application for floor space, and the prospects are that they will have the finest display of both agricultural and manufacturing products of the county that has ever been presented to the inspection of the public. This display has been placed in the charge of the Sacramento County Grange, and Pomona Grange has detailed J. A. Read, Thos. Wait and Mrs. Shields to take personal charge of the exhibit.

We had the pleasure of seeing the other day a demonstration of the fact that the blastophaga has settled down to its legitimate business in California. Mr. George Roeding brought up from his fig orchards specimens of Smyrna figs growing near the wild tree upon which the imported insects are installed. Some of them have been duly pallenated and are full of good seeds and are going right forward with their development while others are beginning to turn yellow and fall just as the Smyrna figs usually do in this State. This shows that some of the new insects have done their work, their numbers were probably insufficient to reach all the young figs. The next question is whether the insects will go through the winter in good shape, and there is no reason to doubt that they will do so in regions where the Capri fig hangs on the tree through the winter as it is known to do in some parts of the State.

W. H. Mills of this city has been appointed as honorary expert in the forestry and fisheries department of the Paris Exposition. The appointment was made by Commissioner Peck on recommendation of Dr. Tarleton H. Bean, general director of the forestry and fisheries department. Mr. Mills will have entire charge of the work of collecting and arranging California's exhibit for this department, and will enter upon his duties at once. Additional space has been granted for the forestry exhibit, and Mr. Mills will accordingly make an elaborate collection of California woods. He is also planning to ship the trunk of a giant sugar pine recently discovered in the McCloud River district. The trunk is 12 feet in diameter, and the plan is to ship a 30-foot section of it to Paris as a specimen of the coast's productiveness.

Spring grown grain and reseeded fields of wheat on light lands in a number of localities in the Northwest may be termed in a critical condition as a result of the hot weather of the past week. The intense heat has caught the grain at a stage where it was at the worst disadvantage. At nearly all points south of Snake river fall grain and spring grain planted early on heavy soil are not injured by the heat, but grain less fortunately situated has been burning.

Reports from the principal agricultural towns in eastern Washington and northern Idaho show that the acreage of ground sown to wheat this year is larger than in 1898.

QUERIES AND REPLIES.

Tomato Troubles.

To the Editor :—I send you some tomato blossoms. As you will see, there appears to be a joint of some kind in each stem and as the blossom matures it breaks off at this joint. The vines are strong and thrifty. Last year I had the same trouble. No tomatoes appeared until late in the season and then only a few, while the vines grew 6 or 7 feet in length. They are planted on a low hill, sloping a very little to the north ; sandy loam ; enriched a little with cow manure ; receive full sunshine most of day. They are irrigated.—Reader, Lakeport.

This has no relation, fortunately, to the tomato diseases which are very prevalent this year in the San Joaquin and in southern California and of which a full account is given upon another page. Our Lakeport reader's tomato plants have simply been having too good a time. The manure and irrigation have forced too great a growth of vine and few plants fruit well when growing too freely. Later in the season, after this exuberant growth ceases, the blossoms hold fast and the fruit appears. For early tomatoes choose warm and rather dry land and only give water enough to preserve good color and moderate growth. On rich, moist land plant later: after the excess of moisture has gone out of the land, and cultivate well for a late crop.

Japanese Plums.

To the Editor :—I take the liberty of sending you a sample of Japanese plums which came in a consignment of what were supposed to be Kelseys. Would you kindly examine them and report me if they have a name.—Grower.

We are sorry we cannot name the varieties. They may have names enough but they are varieties which do not commend themselves in this State because there are so many better ones. There are more kinds of of Japanese plums grown at the East than here because they are trying everything for hardiness, which is not of so much moment with us. We see no value in the samples sent and should graft them over to larger, handsomer kinds at the first opportunity.

The Collapse-Blight of Tomatoes.

To the Editor:—We have some acres of growing tomatoes for canning which up to date have been looking fine; to-day they show some signs of the blight which you have described. Now what is best to do? Shall I irrigate them or not?—J. M. McElhaney, Santa Paula.

This is the disease which is described at length upon another page of this issue. As there stated, there does not appear to be any effective treatment for tomatoes which show the collapse-blight. It is a bacterial trouble working in the interior of the plant tissues and not reached by any application. We would remove at once all plants which wilt, so that insects cannot go from them to healthy plants, and irrigate the healthy plants if they need moisture to keep them in good growing condition, but do not irrigate if the plants are doing well enough. Too much water is not conducive to good fruiting of the tomato.

Woolly Aphis.

To the Editor:—My apple trees are covered with woolly aphis. The limbs are white with it, and I notice that since we have irrigated the trees the woolly aphis is much worse. Is there any remedy I could apply at the present time without injuring the trees? The apples have all been picked, so there will not be any fruit to injure.—M. G. Coggeshall, Trask.

Kerosene emulsion will reduce the aphis on the tree without injury to the foliage ; it will not, however, reach the insects which are on the roots. They will have to be treated, as has already been described in these columns, by removing the earth from the base of the tree and applying tobacco tea or tobacco dust. Kerosene emulsion can be used successfully on the root crown, if care is taken not to overdo it.

Pineapple Growing.

To the Editor:—I have bought a ranch near Santa Barbara. Can I grow pineapples profitably?—Reader, Philadelphia.

There are places adjacent to the city of Santa Barbara where pineapples can be grown so far as temperatures are concerned. But escape from frost is not the only requirement of the pineapple. It needs light, warm soil and abundant moisture at its roots. There is also reason to believe that the plant enjoys a more humid atmosphere than usually prevails during the California summer, and dislikes exceedingly the dry northers which occasionally prevail. We have grave doubts as to the profitable growth of pineapples even in frostless places in California, chiefly because of the low percentage of atmospheric humidity, but there are several other things still to be determined by experiment. We would not plant pineapples on a commercial scale, but if we had means and leisure we would secure and make trial of as many varieties as possible to determine their adaptability to local conditions.

The Best Potatoes.

To the Editor:—What varieties of potatoes have given the best results in yield and quality from a marketable standpoint? The Early Ohio and Rural New Yorker have been tried to some extent this season, but they are somewhat rough and knotty.—Grower, Sacramento.

We presume you refer to the newer kinds of potatoes and not to the older varieties. It will probably be with them, as with varieties of most other things, that localities will differ in their choice. We have not at hand the data for a comprehensive answer, and shall be glad to have readers name their favorites out of the newer sorts they have tried. At the Paso Robles Experiment Station nine varieties were planted on March 21 and the best in yield was the White Pearl, beating the Ohio, of which our correspondent writes, by maturing earlier and making twice the yield. The White Pearl was dug on July 7. It will be very interesting to have a potato discussion, now that the interest is so great in a crop which has paid so well this year.

A New Peach.

To the Editor:—I send a sample of peaches and a few of its leaves, they are from a freestone tree over twenty years old. The blossoms are large and it blooms rather late, and is what might be called a sure bearer, that is, it stands the frost better than some other varieties. What is your opinion of it compared with other standard varieties?—W. E. Mee, St. Helena.

The peach is of the Hale's Early type and very closely resembles that standard peach, if, indeed, it be not really that variety. What you say of its bloom and bearing also apply to Hale's Early. If it is not that variety it is no better, so far as we can see, and therefore can make no special claim to propagation.

Cow Peas in California.

To the Editor .—What is the best cow pea for California? I would like to plant several hundred pounds in a central coast valley.—Subscriber, San Francisco.

This has not yet been fully settled because sufficiently wide trial of varieties has not been made. The cow pea is a bean: it cannot endure frost and there is not available for winter growing except perhaps in a few practically frostless places, of which a central coast valley is evidently not one. The cow pea does not enjoy drouth, consequently no satisfactory summer growth can be had except on moist river-bottom or on irrigated land. We have, however, seen splendid summer growth of cow peas on moist bottom land and in well suited places the plant may prove of high value. The best crop we have ever seen was on the farm of Whittaker & Ray near Galt, Sacramento county. The name of the variety we do not recall. The Wonderful cow pea was grown successfully by D. M. Dimmick of Santa Barbara county and Ira W. Adams has another which he calls the Boss bean and which he recently described in our columns. The cow pea is an interesting subject, we would like to hear from all readers who have grown it.

Cherry Trouble.

To the Editor:—I send you a few limbs off my cherry trees. What is the matter? Four years since I cut the top limbs back. They were then two years old. The following year some of the trees seemed to be struck with a kind of blight. The leaves acted somewhat as if they had the curled leaf. When this blight strikes them they cease growing. They were very thrifty before I topped them. Was the topping the trouble, or is there some fungus or insect doing the damage?—J. H. McCollough, Irvington.

Your trees have a certain amount of fungus of the "leaf spot" but not enough, it seems to us, to account for the absence of new wood. If the trees had been thrifty they would have pushed out quite a growth early in the season before this spot appeared. The topping of a two-year-old cherry tree is not injurious. We have done it repeatedly with cherry trees of different ages and never saw any harm follow: in fact we have come to look upon a cherry tree as one of the hardiest under the knife we have ever handled. We remember that you submitted a question about these same trees some time ago and we thought there was some trouble in the soil and think so still. We believe the soil is too dry for the cherry, and with last year's drouth the trees were so weakened that they could only make leaves and no new growth this year. Many trees were actually killed outright by last year's drouth. The cherry does not like excess of soil moisture but it is one of the most exacting in having enough.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 17, 1899.

Alexander McAdie, Forecast Official and Station Director.

The wheat and barley crops are generally above the average in the central and northern portions; and in the north coast section of southern California the yield of these cereals is said to be nearly equal to the average. Raisin and wine grapes are making good growth, with the probability of an average yield. Table grapes are being shipped east. Peaches and other deciduous fruits are plentiful; in some sections apricots and prunes are yielding much better than had been expected. It is reported that Navel oranges are dropping badly in portions of the Sacramento valley. Sugar beets are doing well in the central and southern coast regions. Corn, potatoes and vegetables are in good condition, in most sections. Pasturage is beginning to show lack of moisture. Irrigating water is becoming scarce in portions of the San Joaquin valley and in southern California.

Coast and Bay Sections.

Fruit.—The weather has been favorable for grapes and berries, which are progressing favorably. There will be a good crop of apples, though in some sections the fruit is small and inferior, owing to lack of moisture. Large quantities of apricots are being shipped to canneries from San Luis Obispo county. Prunes are yielding a better crop than expected.

Grain.—Harvesting is nearly completed, and threshing is in progress. In some sections barley is yielding an immense crop; there there will be a fine crop of oats; wheat is generally turning out a very large crop, though in some sections the yield is not equal to earlier estimates.

Minor Crops.—Corn and vegetables are looking well, with prospects of a good crop.

Sacramento Valley.

Fruit.—Grapes are in fair condition, and the danger period from sunburn is past; the crop will be large. Pears will yield a medium crop; other deciduous fruits are better in quality than for many years, and the yield is heavy. Peaches, prunes and blackberries are being sent to canneries. Oranges are dropping badly in some localities. Olives are doing well. Grapes are being shipped East.

Grain.—Wheat is nearly all harvested; quality and yield good, though in some sections the crop is proving less than estimated.

Minor Crops.—Weather conditions have been favorable for corn, potatoes and vegetables, and the yield will be equal to the average.

San Joaquin Valley.

Fruit.—Cool weather during the latter part of the week was beneficial to grapes; all deciduous fruits are rapidly ripening and being shipped to canneries or to market; in some localities farmers are irrigating vineyards and orchards; water is getting low in ditches; the prune crop is heavier than expected; oranges are dropping in some orchards.

Grain.—Harvesting and threshing are progressing; wheat is proving a very profitable crop, generally yielding much above the average.

Hay.—The second crop of alfalfa is in stack; baling continues; pasturage is becoming very short in some sections.

Minor Crops.—Corn is developing finely; sweet potatoes promise a good crop; Burbank and Early Rose potatoes are in market, quality excellent.

Southern California.

Fruit.—Conditions have been favorable for the development of deciduous fruits; apricots are ripening rapidly; the yield exceeds expectations in some localities; the indications are that the orange crop will be heavy.

Grain.—In the northern counties a fair crop of wheat and barley has been harvested and is now being threshed.

Sugar Beets.—Along the coast, in Santa Barbara and Ventura counties, the crop appears to be progressing very favorably; in the interior conditions are not so satisfactory.

Minor Crops.—Walnuts, where irrigated, are doing well; beans, potatoes and tomatoes are in fine condition.

Los Angeles Summary.—The warm, clear weather which prevailed last week moderated considerably during the past week; while the days were moderately warm, the nights were generally cool and cloudy, with occasional fogs Fruit drying proceeded under less favorable conditions than the week previous, when clear, warm weather greatly facilitated the process. Threshing continues, and in sections barley is turning out well; sugar beets and beans are maturing favorably where there is sufficient moisture, but in less favored localities they are poor. Oranges and lemons look well, and, as far as heard from, trees have a heavy crop; vineyards are beginning to show the effects of the drouth, but continue to promise a fair crop; hay haling continues; water is holding out well in localities; it is failing in others Thunder storms occurred in the mountains near the Mexican border.—Geo. E Franklin.

The following data for the week ending 5 A. M. Wednesday, July 19, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week..	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week	Maximum Temperature for the Week.....
Eureka.....	.00	.00	T	.06	60	52
Red Bluff.....	.00	.00	.00	.02	108	60
Sacramento.....	.00	.00	.00	T	102	52
San Francisco.....	.00	T	.00	.02	66	48
Fresno	.00	.00	.00	T	110	58
Independence.....	....	....	....	T	100	64
San Luis Obispo....	.00	00	.00	T	88	48
Los Angeles.....	.00	.00	.07	.02	82	54
San Diego.....	.00	.00	.00	T	70	60
Yuma	.00	.00	.00	.10	108	74

THE PUBLIC LANDS.

A General View of Uncle Sam's Farm.

Mr. Max West of the Division of Statistics of the Department of Agriculture has prepared for the Year Book of that department a review of the area and character of the public domain of the United States from which some interesting statements will be taken.

The Area.—There are within the limits of the United States, exclusive of Alaska and the new island possessions, nearly 573,995,000 acres of vacant Government land, besides 145,122,000 acres in Indian reservations, forest reserves, national parks, reservoir sites, and military reservations, or for some other reason reserved from settlement. The vast area of Alaska, which is very nearly all public land, together with lesser areas in Hawaii, Puerto Rico, and other new dependencies, will bring up the total extent of the national domain, exclusive of reservations, to nearly 1,000,000,000 acres.

The Available Portion.—Figures are given showing that more than 30% of the area of the United States proper is still vacant public land, while about 7⅓% is reserved. Future additions to the reservations for permanent forests and reservoir sites will no doubt diminish the area open to settlers, but these additions are likely to be counterbalanced in whole or in part by the opening of Indian and military reservations to settlement. The 1,000,000 acres granted to each of the arid States by the so-called "Carey Act" will still further reduce the amount of land to be obtained by settlers directly from the National Government, but doubtless without reducing the total amount of public land available for settlement. At the present rate of disposal to individuals, the vacant lands in the United States proper would last for nearly a century.

Public Lands Fit for Productive Uses.—Far more important than the exact area of the public domain legally open to settlement is the question how much of this public land is actually fit for cultivation or for other productive uses. Having regard to present conditions, it must be admitted that all the best parts of the public domain have been appropriated, and that comparatively very little good agricultural land remains open to settlement; the mineral value of that which remains may be very great, but even of the mineral deposits it may be said that the most accessible and most easily worked among them have probably been appropriated. Looking into the future, the question becomes much more difficult, for no one can tell even approximately how much of the land now lying waste may be ultimately reclaimed to productive uses. The one thing needed, as far as concerns the greater part of the 573,995,000 acres of vacant public land in the United States proper, including nearly all west of the ninety-eighth or one hundredth meridian, is an adequate supply of water; and this applies to much of the mineral land, as well as to that which it is desired to reclaim for agricultural purposes. Vast tracts of arid land in the Western United States contain in an unusual degree all the elements of fertility except water, and with the aid of irrigation could be made to yield more abundantly than even the best land of the humid regions. It has been said that "sagebrush is unerring evidence of kindly soil and abundant sunshine." Mr. Newell places the irrigable amount at 74,000,000 acres, or about 7.6% of the total area of the sixteen Western public-land States and Territories. This is a very conservative estimate, in which financial as well as engineering considerations are taken into account, and it looks not to the remote future, but only to what is likely to be profitable and therefore practicable within a generation. Future improvements in irrigation engineering and methods and discoveries of new underground water supplies, together with the increasing demand for agricultural products resulting from an increasing population, may in the course of time make it profitable to irrigate a much larger area; but any attempt to state the ultimate extent of irrigation would be only conjecture.

The Character of the Public Lands.—The table gives approximately the areas of forest and woodland, grazing lands, and desert composing the public domain in fifteen Western States and Territories. It is based upon the estimates of Mr. F. H. Newell, which show that of 609,000,000 acres of land vacant in these States and Territories in 1894 there were about 166,000,000 acres of forest and woodland, 374,000,000 acres of grazing land, and 69,000,000 acres of desert, or land too barren even for grazing. Making allowance for the forest reserves which have been set aside since that time, and also for some areas which have been opened for settlement, and estimating the probable division of lands entered by settlers between timber and grazing land, the land now unappropriated and unreserved is found to consist of about 124,300,000 acres of forest and woodland and 365,400,000 acres of grazing land, with nearly or quite as much desert land as before.

The following is the character of the vacant public lands in fifteen Western States and Territories:

States and Territories.	*Woodland and forest.*	*Grazing land.*	*Desert.*	*Total.*
	Acres.	*Acres.*	*Acres.*	*Acres.*
Arizona	6,900,000	29,800,000	15,000,000	51,700,000
California	900,000	22,500,000	19,000,000	42,400,000
Colorado	10,500,000	29,200,000	.....	39,700,000
Idaho	24,600,000	19,600,000	.....	44,200,000
Montana	19,800,000	51,800,000	.....	71,600,000
Nebraska	.....	10,500,000	.....	10,500,000
Nevada	800,000	40,600,000	20,000,000	61,400,000
New Mexico	8,600,000	46,000,000	.....	54,600,000
North Dakota	200,000	20,400,000	.....	20,600,000
Oklahoma	.....	7,880,000	.....	7,000,000
Oregon	19,200,000	16,700,000	.....	35,900,000
South Dakota	.....	12,800,000	.....	12,800,900
Utah	17,000,000	16,900,000	10,000,000	43,900,000
Washington	7,100,000	6,300,000	.....	13,400,000
Wyoming	8,700,000	35,300,000	5,000,000	49,000,000
Total	124,300,000	365,400,000	69,000,000	558,700,000

Public Lands of California.—In California the vacant public land aggregates 42,443,000 acres, or a little more than the amount which has been appropriated. There are also seven forest reserves, besides the General Grant, Sequoia, and Yosemite National Parks, and several small Indian reservations.

Topographically, California consists of the Sierra Nevada and coast ranges of mountains, with a broad, level valley between them and narrow exterior strips of comparatively low land. Through the central valley flow the Sacramento River in a southerly and the San Joaquin in a northwesterly direction to Suisun Bay and the Golden Gate. Tributary to these rivers are a number of streams which rise in the Sierra Nevadas, while the Klamath in the extreme north and many shorter streams flow directly into the Pacific ocean. There are also many small streams which contribute their waters to interior lakes or are used up in irrigation near their source in the mountains. There is thus an abundant water supply, and California as a whole can scarcely be called an arid State. The annual rainfall is not very deficient in quantity, but during August, September, and October there is drought; from this it results that while grains can be raised successfully without irrigation in many of the valleys, artificial watering is essential to orchard crops except in the most humid sections. Dry farming has been carried on to some extent in every county in this State, and there is a considerable area along the Sacramento and San Joaquin rivers which is too wet, and where the problem is one of drainage instead of irrigation. The great mass of vacant public land, however, is in the arid southeastern part of the State, east of the forest reservations in the mountains. San Bernardino county, containing a large part of the Mohave Desert, has 7,500,000 acres of public land, and Inyo county, in which Death Valley is situated, has 5,700,000 acres, including some land on which crops might be raised. In the northern part of the State the largest amounts of public land are in Siskiyou and Lassen counties. In the former there are 2,300,000 acres of mountainous, grazing, timber, mineral, and farming land; nearly five-sixths of the latter county is still public land, much of which is irrigable from Honey lake, Eagle lake, and other sources, while the remainder consists of non-irrigable grazing land and mountains, partly timbered. Small amounts of agricultural land are still vacant in a number of other counties.

It is estimated that altogether 17,000,000 acres of California lands are capable of irrigation, but it is doubtful how much of the land now vacant will be reclaimed in that manner; a large part of the available water supply may be used to irrigate lands which have been already cultivated without irrigation.

AGRICULTURAL ENGINEER.

Roads and Road Making in Southern California.

By C. L. Gould at the July meeting of the Pomona Farmers' Club.

I shall take it for granted that good roads are a necessity of the age in which we live. When our farmers went to mill with corn in one end of a sack and a stone in the other, almost any kind of a road would answer; but now, when the products of our farms, orchards, factories and mines must be hauled over wagon roads before they enter into the commerce of the world, it is plain that the very best roads are a public necessity. I suggest

1. That all roads be divided into three classes; the first class should comprise all main roads between cities and large towns; second, all important country roads; third, all other public roads.

2. The making and repairing of roads should be let out to the lowest competent and responsible bidder, for a term of not less than five years, who should act under the instructions of a county road commissioner who should also be a surveyor and civil engineer.

There are really few men that are competent overseers of roads. One great injury to our roads comes from the want of some person to patrol them and do the little work needed at the proper time; not to do so results in ruts which become large mud or dust holes. In no work is the old adage, "A stitch in time saves nine," better exemplified than in repairing roads.

As a general rule, there are but two or three months during the year when grading should be done on wagon roads. After the first good winter rain the road grader should be put to work so that the road bed may be thoroughly packed and settled before the dry weather comes; otherwise a newly graded road will be dusty till settled by water or the next winter rains.

Some soils are naturally so compact that grading is no advantage except to carry off the storm water. I believe it is generally conceded that a coating of disintegrated granite is the best and cheapest material for permanent roads. In some cases I believe it would be a paying investment to have this material brought on cars and delivered at railroad crossings or other convenient places where such material is too far away to be hauled on wagons. Any material once ground into dust should never be used a second time in road making, for it is entirely worthless.

Good roads and water are natural enemies and should not be suffered to remain in contact, except only for the purpose of settling a newly graded road or allaying the dust. With our climate, where rain seldom falls during eight months of the year, and where such good material is so plentiful and so close at hand, we might and should have the best roads of any part of "Uncle Sam's farm." I notice that our county is expending much money to sprinkle the roads. Is not this poor economy when the same amount might be expended in coating the same roads with gravel?

CEREAL CROPS.

Sweet Clover or Melilot in California Grain Fields.

By Jesse Poundstone, at the University Farmers' Institute at Colusa.

The plant I have selected as the subject of this discussion is known under the somewhat contradictory names of sour clover, bitter clover and sweet clover. I have been unable to discover the origin of the plant, but understand it was first introduced in this country on Grand Island, through mistake by being sown for alfalfa seed. Sour clover favors alfalfa in many respects; the seed is very similar and the plants resemble each other very closely. The most marked difference between the two plants is in the blossom—that of the sour clover being yellow and altogether different in shape from the alfalfa blossom—and in the peculiar, bitter aroma of sour clover. This odor is not exhaled from the blossom alone, but from the entire plant, and is of a very penetrating character, so much so that when the clover grows in a field of wheat the bitter odor and taste clings to the wheat and can be distinguished in the flour.

Sour clover will grow to any height up to 4 feet, and will yield any amount up to three tons per acre. Contrary to general belief, it makes a good pasture, and, when cut at the proper time and cured in the right way, will make a fair quality of hay. It is not, however, its value as a food for stock that I desire at this time to direct your attention, but, rather, the great damage it is doing on our grain land, where it has gained a foothold.

Objections to Melilot.—The principal objections to sour clover are:

First.—The faculty it has of imparting to wheat and barley its bitter odor and taste, thereby impairing their value for milling and brewing purposes.

Second.—The great difficulty of its extermination.

Third.—The difficulty of obtaining a stand of grain, or, where a stand has been acquired, the trouble of harvesting the same, where the land is seeded with clover.

I do not claim to have made any very extended or scientific experiments toward the extermination of bitter clover; but what I have made will, I think, demonstrate that when it once gains possession of a piece of land the ordinary methods of extermination are of little avail.

Experiments.—During the winter of 1898 I plowed up a piece of land on which was growing a rank stand of sour clover. The clover was plowed before it had bloomed, and, consequently, before any seed had formed. This land was sown to wheat, the wheat made a fair stand, as did also a second crop of clover; but during the long spell of 1898 between February and May rains the clover died out without having formed seed. In the fall of 1898 this same land was volunteered, no seed being sown on the ground; but after the January rains of this year the clover had made such a growth that I saw little chance for a wheat crop; so I again plowed it under before it had bloomed, and again seeded the land to wheat. The season after this was not favorable to insure a stand of grain, but another crop of clover came up and to-day covers the ground. This makes four crops of sour clover growing on the same land

from the seed originally in the ground. How often this could be continued, until all the seed in the ground would be destroyed, it is hard to say; but from this and other tests of a similar nature, I am satisfied that the seed will remain in the ground for years and await a favorable occasion to sprout.

As a general rule, sour clover seed will not sprout when covered to a greater depth than 3 inches; but this season was an exception to the rule, and I frequently found seed growing from a depth of 4 and 5 inches. I might state here that, unlike alfalfa, sour clover does not grow from the root. The entire plant dies in the fall after the first frosts.

Hardiness of the Seed.—To tell the effect of water on the seed, I put a handful of seed in an ordinary quart bottle, filled the bottle two-thirds full with water and hung it on the outside wall of a building where it was exposed to the entire forenoon sun. The bottle remained in this position for three days and at the end of that time a large per cent of the seed was as good as the day it was put in the bottle. Occasionally a little globule of gas would form around a seed and it would ascend to the surface of the water, where it would send up a long, green sprout, which would run up the neck of the bottle until killed by the hot sun.

It is a frequent occurrence on the lands of this county, subject to overflow, and where the water in instances remains on the land for seven and eight months, to see the rankest kind of a crop of sour clover grow as the water recedes.

These facts demonstrate the great vitality of the seed and the stubborness with which it takes possession of the soil where once it had gained a start.

Suggestions.—Bitter clover is fortunately confined to a comparatively small part of our grain lands, but it is gradually spreading and will continue to spread unless active measures are adopted toward its extermination. Along this line and in conclusion I would suggest:

First.—That great care be exercised in the selection of seed, wheat and barley.

Second.—That when the clover is cut for hay, or when it is growing in grain that is to be cut for feed, it should, if possible, be cut before the clover blooms.

Third.—Land that is heavily seeded to clover should be given a thorough cultivation in the fall, before the rains, by means of harrows. The clover should then be allowed to grow to a height of 2 or 3 inches and plowed under to a depth that will thoroughly cover it. It would be well then to harrow the land again and allow the second crop to get well through the ground; then sow barley on the land and plow it under, being very careful not to plow to a greater depth than 2½ or 3 inches, so as not to bring new clover seed to the surface when it will sprout. If you are fortunate in obtaining a good stand of barley which thoroughly covers the land, you are not likely to be troubled with the clover for that year.

FLORIST AND GARDENER.

Tomato and Potato Troubles.

We recently alluded to a deadly disease of the tomato which is working sad havoc in our fields and gardens this year and gave in brief what is known of it. A fuller account prepared by Mr. J. W. Mills of the University Experiment Station at Pomona for the *Progress* published at that place, gives descriptions of the troubles and their treatment as practiced in the Southern States. The reader will notice that the descriptions and prescriptions do not directly apply to California conditions, but they enter into a general understanding of the unfortunate occurrences which our growers should secure and we shall reproduce Mr. Mills' researches.

The Disease in Southern California. — Mr. Mills writes: Our attention has been called to a disease of the tomato plant that is this year threatening destruction to whole fields. For the last three years this disease has shown itself in southern California, but not to any serious extent till the present. The plant shows indications of disease at all stages of growth. The lower leaves first turn a light green, then to a light yellow; the edge of the leaflets curl up and brown spots make their appearance on them. The general appearance on the plants would seem to indicate that they were suffering from the lack of moisture. When small plants are attacked they usually succumb in a short time. A large thrifty plant may become diseased and continue to bear fruit but it will not be profitable.

Eastern Data.—There are several diseases of the tomato that are discussed in bulletins issued by Eastern experiment stations. These diseases are distributed, as far as is definitely known, from Mississippi to Florida and as far north as New York. Some of them do not appear to show the same characteristics throughout the affected district, or else there has been some confusion in the names. The Florida station describes and illustrates our destructive California disease when it describes the Eastern malady known as "œdema," giving three causes: First, an excessive amount of water in the soil; second, an abundance of fertilizer, or an unbalanced fertilizer, especially one containing a large amount of ammonia; third, the topping or succoring of vigorously growing plants. All three in conjunction being very sure to produce the disease.

Do Not Fit California.—This does not fit our case, as the disease is very destructive here, where none of the three conditions prevail. What is without doubt the very destructive disease that is affecting commercial plantations of tomatoes in the Pomona valley, is described in Bulletin 47 of the Florida Agricultural Experiment Station as *Bacillus solanacearum.* The disease is equally destructive to potatoes and egg plants. Dr. E. F. Smith, of the division of vegetable physiology and pathology, has experimented with the disease, and as the first results of his investigations are of importance to tomato and potato growers, he is quoted as follows:

Insects Spread the Disease.—In the greenhouse, under strict control of conditions, the writer has been very successful in transmitting the disease by means of the Colorado potato beetle (*Doryphora decemlineata*). The first experiment was begun July 23, 1896. A handful of beetles was placed under a bell jar on potato tops taken from plants inoculated July 16th. These tops had wilted and were becoming brown. The beetles fed upon these as readily to all appearances as upon healthy shoots. They were then placed for some hours under a large bell jar on a well-grown healthy plant. This plant was eaten in many places, but not seriously injured. The beetles were then removed and the plant was placed under normal conditions to await developments. On the eighth day there were slight indications of wilt on a dozen different leaves scattered over the plant, indicating as many separate infections. The weather was warm and after a day or two these symptoms progressed rapidly. The wilted leaves shriveled and in a few days longer brown streaks appeared inside of the stems, beginning usually at the base of the shriveled leaves. In ten days from the appearance of the first symptoms the whole vine was involved, all the leaves shriveled and wilted, and the stems became a muddy green, blackened in stripes internally and finally shriveled. Cross sections of the stem showed the vessels to be gorged with bacillus. On August 24th the earth was knocked out of the pot and the pot and tubers examined. These were found in all stages of rot.

Three large well-grown potato plants were subsequently inoculated in the same way and with the same result. In each case the disease began simultaneously in many different parts of the vine seven to nine days after the beetles were removed, and the tubers were rotted in whole or part three weeks after the appearance of the first symptoms on the foliage. The check plants remained healthy.

These experiments with the Colorado beetle seem to fully warrant the conclusion that insect enemies are largely responsible for the spread of this disease. The direct injury resulting from their bites and punctures is not the only injury, nor the worst one. Given one diseased vine in a field and plenty of insects to feed upon it, and the transmission of this disease to all parts of the field is only a question of a few weeks.

Other Insects Do the Work.—As we do not have the Colorado potato beetle in California it is interesting to read that just what insects are most instrumental in disseminating the parasite in any particular locality can be determined only after a prolonged and careful study of the disease in the field. No experiments have been made with other insects, but it is likely the flea beetles, blister beetles, chrysomelids, and many other leaf-eating insects may act as carriers of the disease. No experiments have been made to determine whether their bacillus can gain entrance to the plant through an uninjured epidermis. Most of the infections probably occur above ground and as the result of insect injuries. Very likely there are some underground infections.

Preventive Measures.—The proper destruction of all leaf-eating insects and leaf-puncturing insects is one of the first things to be considered. How this shall be accomplished with the least outlay of time and money is a matter for the economic entomologist to determine. Of course the more diseased plants in a field, at any given time, the more possible sources of infection. For this reason diseased plants should be removed and burned with great promptness. This is impracticable after a whole field has become infected, for then the mischief for the season has been accomplished. The time for such precautions is early in the season, when a frequent and thorough search should be made for diseased plants. This can be carried on along with the war of extermination against the insect depredators.

No Help for Tomatoes.—When the disease has become widespread in the fields of tomato or egg plant there is no help for it, but in the case of potatoes a considerable part of the tubers may be saved if they are dug immediately and stored in a cold, dry place. Delay in harvesting of the tubers for any length of time after the vines have shriveled means simply the infection of all the tubers and the loss of the whole crop, either in the ground or afterward in the cellar.

This disease sometimes appears on new ground, i. e., ground recently cleared, and occasionally to such an extent as to lead growers to suspect the seed. The seed, however, is not necessarily the carrier of the disease, since beetles with the germs on their jaws can readily fly from one field to another. Such an explanation of the disease does not, however, preclude the possibility of the germ being permanently at home in certain soils, or of its being spread by seeds or infected seed potatoes. However this may be, the organism probably lives over winter in the earth of the potato and tomato fields, and therefore such infected soils should be planted to other crops for a series of years before again venturing these two crops or any other solanaceous plants known to be subject to the disease.

Recapitulation.—To recapitulate, prevention of this disease lies in the direction of the prompt carrying out of the following measures: 1. Early and complete destruction of insect pests. 2. Early and complete removal of diseased vines. 3. In case of the potato, the prompt digging of the tubers and their immediate use or storage in a cold, dry place. 4. Selection of land for planting which has not been planted in tomatoes, egg plants or potatoes for several years. 5. Selection of tomato and egg plant seeds and potato tubers from plants grown in localities where this disease does not prevail. Experiments at the Florida Station show that different kinds of fertilizers have an influence in checking the disease; that the disease spreads most rapidly when the vines are vigorous and grow close together; that some varieties are more susceptible than others, but the finer varieties are all subject to the disease to a point of unprofitableness. Some growers may anticipate a late crop of potatoes where tomatoes have died out early in the season. This will not be possible with this disease. Sweet potatoes can be grown on the same land without fear of a failure from this malady, but the season is too far advanced to admit of it at this date.

THE FIELD.

The Castor Oil Plant in India.

We frequently receive inquiries, especially from readers in Southern California, as to the growth of castor beans in this State. New comers see the thrifty growth of the plant even under very drouthy conditions and think at once of the possibility of an industry. The castor bean is a chestnut in California. Twenty years ago there was a larger commercial product than at present. There is no difficulty in the growth of the plant. The difficulty lies in the large amount of labor in successive gathering of the ripening pods and popping out the seed by drying them. The cost of this makes it impossible for us to compete with the cheap labor of India and beans can be imported for less than our growers care to furnish them for. In view however of the interest on the subject a consular letter from R. F. Patterson of Calcutta is pertinent.

The Plant and its Uses.—The castor oil plant is cultivated throughout India, and the oil is frequently employed by the Indian dyers as an auxiliary in certain dye preparations. This oil has the reputation of being one of the best for dressing tanned hides and skins. The uses of the oil are many, it being the only suitable one for lubricating all sorts of machinery, clocks, watches, etc. It is the best lamp oil they have in India and gives an excellent white light, with but little soot—almost an imperceptible amount—which quality no other oils possess. Its use as a medicine is too well known to require more than mere mention.

Though of considerable value as a manure, from the high amount of phosphates it contains, the castor oil cake is regarded by European cattle breeders as highly injurious to cattle; but in India, a decoction prepared from the cake is given to buffalo cows to increase the flow of milk.

Oil Extraction.—The oil is usually extracted from the seed in two ways—by decoction and expression. The process of decoction consists in bruising the seeds, previously deprived of the husks, and then boiling them in water; the oil rising to the surface is skimmed off and is afterwards again boiled with a small quantity of water to dissipate the acrid principle. To increase the product, the seeds are sometimes roasted, but this makes the oil brownish and acrid.

By expression, the seeds, after being thoroughly cleansed from the dust and fragments of the capsules with which they are mixed, are conveyed into a shallow iron reservoir, where they are submitted to a gentle heat. The seeds are then subjected to long-continued pressure by hand screws. The oil is transferred to iron boilers containing a considerable quantity of water, and boiled for some time, the impurities being skimmed off as they rise to the surface. The clear oil is then carefully removed and the process is completed by boiling it with a small quantity of water.

Varieties.—There are two chief forms of the plant in India, of which there are many varieties. One

form is a tall bush, a perennial, that yields a large seed and an abundance of inferior oil. The second is an annual plant, sometimes grown as a pure crop, though more frequently in rows of a field containing other crops. It yields a small seed, the better qualities of which produce the superior oil of commerce and of pharmacy. The oil obtained from the first plant is largely used for illuminating purposes, but it also finds a place as lubricating oil and for many of the industries of Europe, where the more expensive article would be prohibitive in price.

Growing the Plants.—The methods of cultivation varies little in the different districts. The best soil for the cultivation of the plant is red loam, though it grows well on alluvial soil. The land is plowed (in May and June) twice with the ordinary native plow that hardly scratches the top of the ground. It is then well manured and plowed again. In July or August, after the rains begin, the sowing takes place. A man sowing follows the plow and drops the seed at intervals of about a foot, and another plow follows, covering the seed. The seeds germinate in about a week, and a month later the land is plowed twice to kill the weeds. In the fourth or fifth month after sowing, the flowering begins and the capsules are formed. The picking begins in the seventh month and ends in the ninth. The seed pods are gathered by hand, stacked, covered with straw, and weighed. After six days, the capsules becomes soft and rotten. They are then exposed to the sun for two days, and when thus dried are beaten with a heavy mallet about 2 feet long and 1½ feet broad, which removes about half of the seed. The remaining capsules are again dried, and the beating process is repeated, which results in the husking of the balance of the seed. The whole is then cleaned and is ready for the next process—that of extracting the oil.

When grown with other crops, the small variety is sown by driving a plow at pretty wide intervals over the field after the other crops have been put down; the seeds are sown about a yard apart. The product is less than that of the large description, though its value is said to be 50% higher. The oil of the small kind only as a rule, is used for medicinal purposes.

The Crop.—The average estimated out turn per acre in India is 475 pounds of clean seed, the highest 885 pounds (which is the out turn when grown as a single crop), and the lowest 235 pounds (when it grows with other crops). The average estimate of cost of cultivation is $3.25 per acre, the highest $5, and the lowest $1.75. The average estimated profit per acre is $5, the highest $8.75, and the lowest $4.25, though it is believed that the growing of the castor oil plant could be made much more profitable than these figures indicate.

Sugar Beets in Solano County.

Superintendent Sammon advises the Dixon *Tribune* that only about 1200 of the 2500 acres of beet land that were seeded will produce a crop. It is not to be understood, however, that the loss is due in any respect to the quality of the land. The land which will represent our beet culture in this section was planted before the March rains. All of the land planted subsequent to the storms of that month will not pay to harvest.

The sugar refinery people were looking for a dry year and would not take chances on seeding the land, as do our grain producers, and they now realize their delinquency. Had they planted the seed regardless of the indications of continued dry weather, quite a different result would have been the outcome of the project. Recognized authorities on beet raising tell us that the sugar must be cultivated into the plants largely. This has not been done here and the refinery people admit the fact, but claim that they have been handicapped heavily by reason of their inability to secure labor to hoe the beets and teams to work the cultivators. The season has not been altogether favorable for a good beet crop, but those who have faith in the industry do not hesitate to express an intention to engage in the cultivation of the sugar producing plants on an extensive scale next year.

S. G. Little is among those who are the most enthusiastic over a continuance of beet cultivation. Every year since the beet growing test was made in this section several years ago Mr. Little has devoted about an acre of land to the production of sugar beets for cow feed. The beets were well cultivated and yielded exceptionally well. There are those who argue that the growing of sugar beets withdraws the strength of the soil, and that land which has produced a large crop of beets will not produce cereals as it should for several years after. Mr. Little denies that there is any truth in the argument, inasmuch as every test that he has made has proven it to be false. He states that the land which has grown beets is improved and will produce more grain the following year than land on which beets have not been grown. As a demonstration of that fact, he has a piece of last year's beet land which has grain on it this year of much heavier growth, and will yield several bushels more per acre, than an adjacent field of grain which has produced nothing but cereals for years, with the usual rest incidental to summer-fallowing.

It is thus shown that with the exercise of due diligence in the preparation of the soil before planting, and the proper cultivation of the land after the beets are up, our grain lands may be made to produce each year with good results. Handsome profits may be derived from beet culture in the year usually lost through summer-fallowing, and the ground left in a better and more productive condition than by the ordinary process.

[But where summer-fallowing is done to secure moisture for the following year's crop this object will not be served by growing beets, which will use up the moisture.—Ed.]

SHEEP AND WOOL.

Sheep for Mutton.

The Bureau of Animal Industry has in preparation a bulletin entitled, "Raising Sheep for Mutton," by Prof. Charles F. Curtiss of Iowa, which should be of great value to a large proportion of farmers. The American people have been characterized as a nation of pork eaters with but little or no appreciation of good mutton. However, this may have been in the past, it certainly does not apply to the present time, and there is a constantly increasing demand for good mutton in the United States. The Chicago market alone, in 1894, took nearly a million more mutton sheep than during any previous year, and the receipts during 1898 are the largest on record. In years past the fleece was the prime consideration in sheep but although the mutton sheep has been rather slow to invade this country, the production of first-class mutton for American and European markets is rapidly becoming a permanently established industry of vast proportions. It has been clearly demonstrated, Prof. Curtiss says, that mutton sheep properly selected can grow a large part, if not all, of the wool demanded for American manufacturing. The impression has prevailed that sheep are suited only to inferior lands. No greater error can be imagined. Sheep are well adapted to scanty vegetation and are capable of profitably grazing semi-arid lands, yet they also render as large returns for a liberal ration of good feeds as any domestic animal, with the possible exception of the hog. The high-priced agricultural lands of Great Britain sustain 680 sheep per thousand acres and Scotland in 1893 had even as high as 1,380 sheep per thousand acres of agricultural lands. The leading agricultural States of the Union have not to exceed twenty-five sheep per thousand acres of land.

Prof. Curtiss mentions the fact that the seven States constituting the corn belt area of the United States, produced over a billion bushels of corn and over a quarter of a billion bushels of oats in 1896 and that a large part of this has to seek a market abroad, and he discusses the advisability of turning these crops into good mutton, keep both money and soil fertility at home. The sheep industry, he says, is now being established on a permanent and lasting basis by making mutton the primary consideration and wool secondary, instead of the reverse as has been generally the case heretofore. He notes some careful experiments which have been conducted by the Iowa and other experiment stations concerning sheep feeding, the object being to determine the relative economy of production and value of mutton and wool compared with other farm products. One important deduction drawn, which is contrary to the generally accepted doctrine as to the value of pure blood, is that animals of improved breeds, whether sheep, cattle or hogs, are not capable of returning much, if any, higher returns for a given amount of feed than the so-called "scrub," or native unimproved stock. The chief value of improved blood lies in the capability of higher excellence of finished product and a correspondingly selling value.

A Good Sheep Defined.—What constitutes a good sheep? asks Prof. Curtiss. First, he says, let there be pronounced masculinity in the male and femininity in the female. Sheep should be neither sexless or characterless. They should bear the stamp and character of the breed they represent. This breed character is a mark of good blood and it should be manifest in no unmistakable manner. The sire should be impressed, resolute and of noble bearing. He should be distinctly the head of the flock in every sense of the word. In selecting a sire, look first at the head. If deficient there, look no farther. Insist upon a head that faces you boldly with a wide face, a clear prominent eye, and a robust character throughout. The head should be joined to a well-filled, round, muscular neck, wide at the poll and back of the ears and gradually enlarges in all lines to a strong, full junction at the shoulder, as seen from either top, sides or bottom. This should be accompanied by a wide chest, a prominent, well filled brisket, and a full heart-girth, giving straight, even lines from the shoulders back. A depression either in front of or behind the shoulder, whether at the top, side or bottom line is an indication of weakness. The back should be strong, wide, and well meated, from shoulder-point to tail. The hind quarters should be full and well let down in the leg and flank, in order to yield well of high priced meat. The legs should be placed wide apart and stand straight. Sickle-shaped hock and weak, sloping pasterns afford sufficient reason for condemning an otherwise good sheep.

Essentials of a Good Fleece.—The modern mutton sheep, Mr. Curtiss says, must also be a wool producer. It is no longer regarded necessary to grow one sheep for a fleece, another for a carcass and another for a lamb. The intelligent flock-master combines them all in one class. A close, even, dense fleece with no breaks should cover all parts of the body including the head, limbs, and under parts. A bare-faced and bare-legged sheep is always relatively a light shearer, and in contrast with this the sheep wooled from "the eyes to the toes" always yields a heavy fleece and the wool is generally of a better quality. Fineness, length and strength of fiber are essential qualities. Neglect or undue exposure of the flock, a period of sickness, or anything that induces unthrift and impaired vitality invariably results in diminishing both the length and strength of fiber.

Prof. Curtiss then goes on at some length to discuss the self-feeder, the prime necessity of regular feeding for good results, the practice of feeding three times a day, which he comments on favorably, the requisites of a good shepherd, combining experience, close observation, attention to details, quiet manners, care as to cleanliness in feed and bed and pure air.

ENTOMOLOGICAL.

The Blastophaga.

To the Editor:—The copy of the issue of the 3rd inst. of your valuable paper, which you were so kind as to send me, is at hand, and I return sincere thanks for the courtesy. In criticising my report on "Fig Cultivation in Greece," you say: "Mr. McGinley is respectfully informed that these wild figs were imported to California years ago and are now bearing wild figs in several parts of the State, but the trouble is that there are 'no flies on them,' as with other California things. There is more in this thing than Mr. McGinley knows about."

I plead guilty. I was not aware that the wild fig was being grown in California. One of the American fruit growers who asked me to inquire into the manner of cultivating figs in Greece was a California fruit grower who called at the Consulate in person, and who was not aware that the wild fig was being grown in that State. Within five hours after I had mailed that report a representative of the U. S. Agricultural Department called at this Consulate and informed me of the fact that the wild fig was being grown in California, but that the wild fig of that State had no insect, without which it is worthless. He gave me a great deal of information on that subject, and I shall know more about it when I make another report on fig culture. The American fig growers will succeed in time in getting the much-wanted insect to their fig orchards. Americans generally succeed. D. E. McGinley, Consul.

Consulate of the U. S., Athens, Greece, June 24th.

We are under obligations to Mr. McGinley for this note. We are gratified that the United States forces are all awake to our needs and desirous of meeting them—even if they require the annexation of Smyrna. Mr. McGinley is right; Americans generally succeed. His note is also evidence of the fact that even Californians do not know all the horticultural facts about their own State.

A Spineless Cactus.

Mr. G. G. Fairchild, one of the explorers of the Department of Agriculture, writes that he has discovered a valuable forage plant for the dry regions of the Southwest. It is nothing more nor less than a spineless cactus, and probably not everybody in the United States understands how important an acquisition a spineless cactus would be to a dry and sandy country where ordinary grasses and clovers will not grow. In parts of Texas cacti are now used as forage plants extensively, the limbs of the plants being held over fires to singe off the spines and then fed to stock, which eat them greedily. These spines, while minute and apparently not particularly harmful, will play havoc with animals swallowing them, as they form into hard and compact balls and lodge in the intestines, eventually causing death. The cactus is a drouth lover, and will grow and store up water in its thick, succulent limbs and leaves where any other plant would wilt and die. The new spineless species is described as growing from 10 to 12 feet in height and furnishing a large amount of forage.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

STOCK FARM SOLD.—San Francisco *Chronicle*, July 9: The famous Salisbury tract at Pleasanton, with its race track and stables, is about to pass into the possession of C. B. Charlesworth. It is the purpose of Mr. Charlesworth to conduct this as a breeding farm, and he will import from England and Australia some crack thoroughbreds. Extensive improvements will begin at once, and model quarters be provided for the reception of a large quantity of stock.

HAY CROP. — Livermore *Herald*, July 15: The hay crop is coming to town in large quantities. Most of it is being stored. The price ranges from $5 to $10 a ton according to quality, and the farmers do not feel warranted in selling a large proportion of their crop. E. M. Grimes, president of the Livermore Warehouse Company, does not feel sanguine of very high prices this year on account of the enormous crop of the Sacramento valley and in the coast counties. The yield is hardly up to the average but it far exceeds the expectation of the farmers during the spring months. The hay sustained no damage from the late showers but the lack of moisture at a previous period affected it to a slight degree.

Butte.

NEW OLIVE MILL.—Oroville *Register*, July 13: Mr. E. W. Ehmann of the Ehmann Olive Co. of Oakland has purchased a lot 150x150 on which the company will build an olive mill.

BIG CROPS.—Gridley *Herald*, July 8: Some large yields of grain are reported. M. Sullenger harvested ninety sacks from five acres. Translated into Eastern measure, this means about forty-two busbels per acre. W. S. Harkey is getting fifteen sacks per acre from some of his land, and James goes that one better and sets sixteen sacks per acre.

FLOUR MILLS BURNED.—Oroville *Mercury*, July 14: The Sperry flour mills at Chico were destroyed by fire on Tuesday, only the books and coin in the office being saved. In addition to the mill, the warehouse adjoining, the large water tank building of Gen. Bidwell, near by, and a small pump house belonging to the county, used for pumping water for sprinkling the roads of Chico Vecino, were destroyed. The shrubbery of the Bidwell grounds was badly damaged. The mill building was a three-story structure, erected about fifteen years ago. Its capacity was 200 barrels of flour a day. Twelve hundred tons of wheat and barley and a large quantity of flour were destroyed. The total loss is estimated $80,000, only partly covered by insurance.

Humboldt.

INCREASED BUTTER EXPORTS.—Eureka *Standard*, July 12: The summary of the data of exports of county produce shows that, as usual, June is the banner month of the year, especially in dairy products. In these the month shows the usual annual increase, the shipments being the largest ever made in the history of the industry here. The item of butter alone represented a value of nearly $114,000, the shipments being not only the largest for the year, but also the largest for any month since Humboldt commenced to export this commodity. The exports of butter from Humboldt when compared month with month show generally an increase every year, which may be illustrated by the following comparison of the shipment of last month with those for June of the five years preceding: 1894, 397,960 pounds; 1895, 456,380; 1896, 458,900; 1897, 510,230; 1898, 465,110; 1899, 579,430. Besides the butter, there were shipped 49 cases condensed cream and 340 cases condensed milk.

Los Angeles.

GOOD PRICES FOR LATE ORANGES.—Pomona *Times*, July 12: Mgr. Adams of the Pomona Fruit Exchange reports the sale of a car of third-grade Late Valencia oranges in St. Louis about June 25th for $1394, which nets the grower just about $2.50 per box. This is a remarkable sale. Only one car of fancy Navels of this season's exchange shipments brought as much.

FRUIT ITEMS.—Pomona *Times*, July 12: The past ten days have been ideal ones for drying fruit—little fog and very few clouds. Apricots ripened rapidly and overwhelmed the dryers with work. Several of them were compelled to work Sunday to save the fruit, and paid extra for the labor. W. W. White, at his private yard on Crow avenue, has dried about forty tons. Smith & Malone, A. G. Whiting manager, have got away with about 400 tons. The Pomona Fruit Growers' Association, Capt. A. D. Thatcher yard manager, has handled, or will before the season ends, 400 tons. On Monday 375 cutters and 74 general laborers were employed. The bulk of the crop is harvested, but it will be two weeks before all is done. Peaches will soon be ready, and 500 tons of prunes is the estimate of the association's crop. Geo. H. Waters & Co., of the cannery, are just closing a very successful and satisfactory run on apricots. They have made a larger pack this season than in any previous one. They shipped East last night a car of canned and one of dried 'cots—their first shipments this season. Loud & Gerling have drying yards here, in Lordsburg, Cucamonga and several other places. They have already shipped four cars of dried apricots. They find the fruit generally clean, making a bright dried product.

Mendocino.

SHIPMENTS OF STOCK.—Ukiah *Dispatch*, July 14: Pierce & Payton shipped 4000 sheep (thirty-five carloads) to Suisun this week, and H. Levy shipped 1500 head to Petaluma. Two carloads of sheep were shipped to San Francisco by Ford & Foss. Smith & Gibson, the local stock buyers, purchased fifty head of choice steers from McSpadden, Singley, Orr & Weger, and Gilbert & McClenden. The above firm also made a shipment of 250 sheep to Healdsburg yesterday.

DISTRICT FAIR —*Dispatch*, July 14: The local Agricultural Fair directors met to arrange for the fair this fall. The time set for the fair is Oct. 4th, 5th, 6th and 7th. On account of lack of funds there will be no racing. The agricultural exhibits will be in Marks' Opera House. The exhibits of live stock will be in the vacant lot on Main street. Quite an interest is being taken now and the fair promises to be a great success without the races.

Monterey.

HEAVY BEET CROP.—Salinas *Journal*: The beet fields of the Blanco and Moro Cojo districts are expected to turn off twenty tons per acre. There will be quite a number of similar heavy beet yields in Pajaro valley. It is going to be in this section a year of surprisingly heavy beet yields, and at $4.50 per ton the beet crop is going to rank at the front as a profit winner.

LARGE GRAIN CROP.—Gilroy *Gazette*, July 14: Having personally interviewed a number of farmers in this section, it is ascertained that crops will turn out far above the average. Many farmers will realize as high as forty sacks of barley per acre and wheat will probably turn out in a like proportion. Farmers in this valley will be well repaid for their season's labors.

BEET FACTORY TO MAKE A TRIAL RUN.—Salinas *Index*, July 13: Superintendent Cayer is getting the Spreckels Sugar Company's land in the vicinity of the factory, upon which no crop was planted this year, ready to receive the water when the factory starts up. All the water used by the factory will be spread over the adjacent land and not allowed to run to waste in the river. The factory will make a trial run on 5000 tons of beets early in the coming month, preparatory to entering upon the regular season's run in September.

LAND AND STOCK COMPANY INCORPORATED.—Salinas *Index*, July 13: The Jesse D. Carr Land & Stock Co. have filed articles of incorporation. Salinas is to be the principal place of business. The directors are Jesse D. Carr, Jessie D. Seale, J. C. Franks, J. B. Iverson and Harry Winham. There are 4060 shares of capital stock, of the par value of $100 each, held as follows: Mr. Carr, 3000 shares; Mrs. Seale, 1000 shares; Mr. Franks, 50 shares, and Messrs. Winham and Iverson, 5 shares each.

Placer.

FRUIT CANNING.—Lincoln *News-Messenger*: The run on peaches will begin at the cannery about the middle of next week. Early clingstone varieties from the Columbian, Julian and Falk orchards will be the first put up. Later on, peaches will come from Yuba City, Orangevale, Palermo and vicinity. This week 250,000 empty cans, making five carloads, arrived at the cannery. A new tapping machine has been put in and various other improvements made for the coming heavy run. The automatic fans will be in place next week.

Riverside.

CITRUS NOTES.—*Press*, July 15: The citrus shipments from southern California for the week ending Wednesday last amounted to 46 carloads, as against 112 cars for the corresponding week of last year. The total shipments this season have been 9979 carloads; last season, 13,992 carloads. Very few oranges are left to ship, and these are mostly of the Valencia variety, which will be held until later. The lemon shipments are far greater than the orange. A Chicago dispatch says brokers have temporarily given up the handling of California lemons, because they cannot secure for them the prices asked and at which they are said to be selling in the Western markets. This condition of affairs is caused by the heavy competition of Sicily lemons. It is not believed that much will be done on this market with California lemons before August. A New York dispatch says the lemon market there is practically unchanged. The finest hard Verdilli fruit suitable for shipment to the interior is worth $2.50 to $3, but the bulk of the fruit arriving has decay and needs prompt repacking to be sold on this market, so that this particular market is some lower. In the cargo sold to-day a great deal of the fruit sold around $1.50 per box, letting some one out with heavy losses. The heavy shipments from Sicily will soon end, and when the smaller cargoes commence to arrive it is expected that better prices will be realized. The price question, however, rests entirely with the weather.

Sacramento.

PEA CANNING BUSINESS.—*Pacific Bee*, July 12: The largest pea farm on the Pacific coast is near Trask's. This is the property of P. J. Van Loben Sels. He has 250 acres. They are grown on contract for the Sacramento Packing and Drying Company, of which R. I. Bentley is the manager, and are canned where grown. The peas are of the "sugar" variety. When mature they are mowed by machinery, being cut close to the ground. They are then pitchforked upon wagons, which deliver their loads at the cannery. There they are shelled by an ingenious machine somewhat similar to that used for the threshing of wheat. Its capacity is about five acres a day. Mr. Bentley says there are fully 1000 acres devoted to pea farming in California. Large quantities of peas are grown in southern California, and also about the Bay of San Francisco. In answer to an inquiry as to inducements to farmers to engage in the production of peas and other vegetables for sale to canners, he expresses the opinion that such farming would not be generally profitable save where some arrangement is made for growing and packing the vegetables on contract, as in the case above mentioned. It is a great advantage to have the vegetables grown where they are canned. On the Van Loben Sels place, for instance, there are 250 acres in asparagus, as well as 250 acres in peas. In two hours after the asparagus or peas are cut in the field they may be sealed in cans. In this way the cost of transportation is avoided, and the vegetables are packed in the best possible condition, with no loss from spoiling.

San Benito.

DATE FOR DISTRICT FAIR.—Hollister *Advance*, July 14: The directors of Agricultural District No. 33 decided to hold a fair and race meeting immediately after the close of the Salinas fair. This will make the Hollister fair about the second week in October. Roht. I. Orr was elected president of the board.

San Bernardino.

MUTUAL FIRE INSURANCE CORPORATION.—*Sun*, July 14: Articles of incorporation have been filed for the San Bernardino County Mutual Fire Insurance Company, with the principal place of business at San Bernardino; term of incorporation fifty years, with directors as follows: H. H. Morgan, P. E. Walline, L. S. Dyer, A. P. Harwood, W. J. Clark, C. C. Freeman, W. S. Mitchell, J. N. Huehn, B. F. Longwell—all of Ontario. The value of the insurable property of the above stockholders ranges from $500 to $3000 each, which is the stock in the corporation, the whole amounting to $51,850.

San Diego.

FIRST FRUITING OF DATE.—*Union*, July 13: A date tree in the court of the Hotel del Coronado bore fruit this year for the first time. The dates are practically seedless and those that have fully ripened are of delicious flavor, equal to the best imported dates. The tree is eleven years old and the seed from which it was grown came from Antioch on the Mediterranean sea. The matter is being looked into to see if some means cannot be found by which this very desirable fruit can be reproduced in kind. [A seedless date is simply one which has not been fertilized in the bloom. It may be a good thing, but it is not new. Many date palms have acted that way in California for the last twenty years or more.—ED.]

San Joaquin.

GRAIN CLEANING PLANT.—Stockton *Mail*, July 13: The Farmers' Union & Milling Co. is putting in a large grain cleaning plant near the warehouse it is constructing. It will be the most complete and perfect plant of the kind on the coast, and capable of handling from 600 to 1000 tons of grain a day. The building will be four stories high and constructed of specially large timbers to hold the weight of the machinery, which is expected to arrive next Saturday. The plant will cost about $15,000, and there will be four sets of graders, a smutter and other necessary machinery. The shed has been so built that teams may be driven under it and unload at either end of the building. The machinery will be operated by electricity.

Santa Barbara.

DOMESTICATION IMPROVES QUAIL. — *News*: Ralph Palmanteer is the owner of a pair of tame quails, the female of which has made a most remarkable record. The bird has spent the last seventy days laying an egg a day, and to all appearances her intention is to go right on through the year following up the good work. The usual number of eggs laid by quail is twenty-eight or thirty.

Santa Clara.

APRICOT CROP.—San Jose *Mercury*, July 16: The apricot is having a fair run this week at Campbell, although not ripening as fast as usual on account of the cool weather that has prevailed for some time. This is approved of by our fruit growers, because what they lose in time they gain in better and heavier fruit by slow ripening. The Ainsley cannery presents a busy appearance, and by next week it will probably be running with full force, and yet the largest portion of the apricots is being forwarded to the San Francisco canneries. The drier gets but a small portion of the fruit this year.

Solano.

RUNAWAY HARVESTER.—Dixon *Tribune*, July 14: An exciting runaway was experienced on the farm of Mrs. S. J. Summers last Tuesday. A team of twenty-six animals was drawing a harvester, when they suddenly became frightened and broke into a mad run. All of the contrivances for stopping the machine were brought into use as soon as possible, but the pace the animals cut out was little short of a stampede, and a distance of 300 yards was covered before they came to a standstill. The driver, Chas. Viau, retained his seat with difficulty, and that he was not thrown from his perilous position above the wheelers is considered miraculous, as the machine was fairly lifted from the ground at times by the runaway team. One of the horses in the team fell in the flight, and, after dragging for some distance, was caught beneath the ponderous machine and its life instantly crushed out. The working parts on the interior of the harvester are a total wreck and it is doubted if it will pay to repair or replace the damaged sections.

Sonoma.

INCREASED VALUATION.—Healdsburg *Tribune*, July 15: The recapitulation sheet, giving the figures of the assessed valuation of the property in this county for the year 1899-1900, was completed Monday night by County Assessor Frank E. Dowd and Chief Deputy Assessor J. C. Smith. The total amount of all property in the county is $23,753,018. The assessment this year shows an increase of $203,593.

FRUIT GROWERS SIGN AGREEMENT.—Santa Rosa *Press-Democrat*, July 14: The committee appointed at the recent meeting of fruit growers at Healdsburg, when it was resolved that they would not sell their crop of Freestone peaches for less than $25 per ton, and the Clings for $30, to secure the signatures of the growers in the county, have met with great success. In Dry Creek valley forty signatures have been sent in to the secretary. In Healdsburg and Windsor there are twenty-one signatures. In Alexander valley there are seven, Geyserville seventeen, Forestville forty-six. It is thought the amount of fruit represented by these growers will be about 2000 tons.

GRAY OAT HAY.—Santa Rosa *Republican*: There seems to be considerable complaint among hay growers against the gray oat which came to this country a few years ago highly recommended. Considerable land was seeded to the gray oat last year. The crop was of heavy yield and fine quality. The stocks were small and the heads well developed. In fact the hay was as fine to look at as one could wish to see. When it came to feeding it to stock there was trouble. Horses, unless very hungry, showed an aversion to the hay, and some buyers, captured by the fine appearance of the gray oats, had to use most of their purchase for bedding. The grain seems deficient in important substances necessary to make up an acceptable feed for stock. Of a dozen farmers who tried gray oats not one has a good word to say for it. On the other hand, a well-known granger states that his experience does not correspond with the above mentioned farmers. He says that he is now using hay, and finds that his stock not only eat it greedily, but that they are now doing well on it. He expressed the opinion that the trouble is with the farmer and not with the hay. "According to your report the gentlemen who are down on gray oat hay did not harvest their crop until the heads were well filled out. This is a great mistake, and I do not wonder that their stock do not like it. The hay should be cut before the heads fill out, for it is then that the sugar is in the stalk. All kinds of hay raised in this county makes good feed if cut at the right time."

Tulare.

TALL PALM.—Visalia *Times*, July 13: The palm growing in the northwest corner of the courthouse lawn is in all probability the tallest palm in the State. Very near 50 feet in height it stands. H. J. Fleming planted the palm about sixteen years ago.

Yolo.

ALMOND GROWERS' ASSOCIATION.—Davisville *Enterprise*, July 14: The Davisville Almond Growers' Association have elected the following officers: J. E. LaRue, president; G. W. Pierce, vice-president; J. W. Anderson, secretary and treasurer; J. E. LaRue, J. W. Anderson, Eli Snider and G. W. Saunders were elected as an executive committee. Many replies and inquiries have been received as a result of the postals sent out, and it seems likely that a State organization will soon be affected. Growers all over the State seem to take much interest in the proposition. Messrs. Pierce and LaRue addressed a meeting of the growers at Brentwood, Contra Costa county, and succeeded in organizing an association of twenty-eight members.

WHITE POLISH RYE WHEAT. — Woodland *Democrat*: M. T. Emmert of Dunnigan has been experimenting for several years in raising white Polish rye wheat, and he has a crop of twenty-five acres this year that will yield twenty sacks to the acre. Mr. Emmert secured the first seed he sowed at the World's Fair at Chicago, and has increased the acreage sown to that kind of wheat each year. One of the advantages of this wheat is that the north wind does not shell it out.

NEVADA.

IRRIGATION ENTERPRISE. — Genoa *Courier*: The corporation of farmers known as the Carson Valley Water Storage, Irrigation & Canal Co. is beginning active work. A new board of trustees has been elected as follows: John Frantzen, president; C. M. Henningsen, secretary; J. H. Martin, F. Hussman and Fritz Heise. This company was incorporated last November with a capital stock of $50,000, the object being to store water on the upper Carson and conduct it to Carson valley ranches. The trustees intend sending engineers to Alpine to make careful surveys and estimates regarding dams and reservoirs, of which the committee recently made a superficial examination.

WASHINGTON.

WOOL CLIP. — Dispatch from Ellensburg: Nearly all the wool clip of this valley has been shipped out, buyers having been on the ground since the shearing season opened. The producers have adopted a new plan, which is saving them many dollars in freight. Heretofore they have shipped their wool in bags, but this year are haling it, a bale holding about two and one-half bags and occupying no more space. The plan will prevail altogether hereafter.

Horse Owners! Use

GOMBAULT'S

Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

Dream of Empire.

The drooping banner drapes the staff,
No motion of the starry night
Nor sound, except a distant laugh
Where guardmates wake before the fight.

The soldier sleeps, his bosom bare,
His rifle at his fingers' tips;
Bend low among the bivouac there
And listen at the parted lips.

Faint syllabies escape that tell
What fancies in his slumber thrive:
He reigns, a Hastings, splendid, fell,
He breathes the lordly name of Clive.

He rides the huddled tribesmen down
And plies the red, insatiate steel;
He takes the trench, he fires the town
Nor halts till conquered foemen kneel.

Turn from the soldier, let him dream,
God shield him when he sleeps and wakes;
Beyond the broad Pacific stream
A statesman sits as daylight breaks.

His couch, neglected, waits his head,
But ampler visions fill his brain;
He sees a palace by the bed,
A world across the counterpane.

Lo, subject peoples bear him gifts
And serve upon his kingly state;
The swarming square its voice uplifts
And hails him good as well as great.

So mused the Macedonian King
Before the teeming Persian plain;
So Ceasar gave ambition wing
And nursed the thought of Roman reign.

Oh, dream of empire, in thy spell
Behold enraptured nations lie!
Oh, lust of power that will not dwell
At home, beneath a quiet sky!

We dream of empire and are strong
To take and keep; what scruple then
Or timid talk of right and wrong
Deters? Are we backward men?

Aye, backward! when the forward way
Crosses a trampled people's right—
Aye, backward! rather than astray—
Ambition blinds; we crave the light.

Oh, for a bugle note to rouse
Dead Warren and his minute men!
Speak, Franklin, from the Narrow House,
Bold signer, hero of the pen!

This day this crisis needs thy voice,
Declare again for liberty;
Determine now the patriot's choice
And bid two nations still be free!

Two nations? Aye, for serf and lord
Are neither free; one's hands are bound,
The other's mind; a freeman's sword
Ever on freedom's side is found.

The free man is his brother's peer,
Neither a master nor a thrall,
And freedom is not now and here,
But always, everywhere, for all!

—Eustace Cullinan.

Stooping to Conquer.

"Evidently there are three stages in matrimonial bliss!" exclaimed the young wife, with flashing eyes and a voice vibrating with pain and excitement. "The first, during which the happy couple always agree; the second, when quarrels begin but end in delicious reconciliation; the third, of contention leading only to greater and greater estrangement."

"Call them the honeymoon stage, the stage of disillusionment and that of alienation," suggested Arthur, bitterly. "But there is still another stage which you failed to mention, my dear—that of peace purchased at the price of—indifference."

His face hardened as he spoke, and with the last words he left the room. A few moments later Edith heard the house door close and knew that she was alone for the day. The flame died suddenly out of her eyes; she shivered as if with an actual physical chill, and a curious contraction passed over her features. She did not cry, however, but set her lips grimly and went mechanically about her regular morning occupations, dusting the bric-a-brac with hands that did not tremble, spending her usual time at the piano and giving orders for the day. There were letters to be answered, notes to be written and telephone calls to interrupt every hour. At ten came the singing master, at half-past eleven a committee met; then she dressed and went out to luncheon. It was a brilliant winter day; the keen air sent the blood racing through her veins and brought the color to her cheeks. She rebelled against her own heartache and tried to abandon herself to the joy of the brisk walk, but her husband's cruel words had cut deeper and deeper into her consciousness with every hour that passed, and now they haunted her with a terrible insistence. Yet they had been such devoted lovers, and were less than three years married!

"Of course, neither of us meant what we said," she thought, defiantly, "and when Arthur comes home we'll both be on our good behavior and just forget all about it — until the next time."

The next time! The thought of it seared her heart like hot iron, and she felt suddenly weak and frightened. But youth and hope were strong within her, nevertheless, and deep in her heart of hearts lay the assurance that, after all, she and Arthur had not made the greatest of all the mistakes of life. So she faced her trouble and determined to find a way of escape. For weeks this crisis had been coming; now it was upon her and would not be postponed.

There was an important club meeting in the afternoon, but she sent a hasty message of regret and went home, letting herself in with a latch-key and going quietly to her own room to "fight it out" alone. "Defy him and prove your independence," whispered pride. "Stoop to conquer," pleaded love, and her woman's intuition pointed to the path of safety. Not till twilight did she rouse from the trance of inward conflict to prepare for dinner.

As the clock struck six the young husband appeared, waving as a flag of truce a handkerchief tied to his cane, and Edith laughed and kissed him, thinking that he had never looked more handsome and careless than at that moment. His quick eyes noticed at once that she wore his favorite gown, but he was baffled by the expression of her face. He could not know that while he had been in the world of business she had wrestled with the angel at home. During dinner he exerted himself to be agreeable, but the conversation was as a mere game of hide and seek. Later, before the open fire, a grave silence fell.

"Arthur, it must never, never happen again—never as long as we live!" Edith said at length, half under her breath. "I have been a spoilt child all my life, proud, obstinate and willful, but if you will be patient with me I'll try after this to give up when we disagree, and believe with the woman in the fairy tale, 'what the good man does is always right.'"

Arthur looked at her with astonishment and admiration not unmixed with annoyance. The annoyance found utterance. "Well, I have heard that girls lost their spirit after marriage!" he exclaimed, perversely, "but I never expected you to eat humble pie after this fashion—thought the new woman had lost the art." Edith's lips quivered as if she had received a blow, but she answered without resentment.

"Of course, I expected you to make sport of me at first, but if you think it takes less 'spirit' to surrender than to fight you are mistaken, and I had rather be a successful wife than a new woman, if I cannot be both." She tried to speak lightly, but there was a tremor in her voice that belied the steady poise of her haughty head and went straight to his heart.

"You blessed, thoroughbred girl!" he exclaimed, trying to catch her hand, but Edith drew back, refusing to be petted and praised just yet.

"I would not promise to 'obey' when we were married, Arthur," she said, "but now I am ready to adopt Paul's theory of wifely duty if you will promise to do your part. Please do not laugh again," and she took a little volume from the table and held it toward him.

Arthur read, "Wives, submit yourselves unto your husbands, as is fit in the Lord. Husbands, love your wives and be not bitter against them."

A feeling of solemnity took possession of the young fellow, and clasping the hands that held the book he said, simply, "I promise."

"This is more serious than the wedding ceremony," he added a little later.

"Yes," she answered, "it means more to us than even that, for then we did not know what we were doing, but now we begin to understand."

"You are taking an immense risk, though!" he cried, suddenly. "Suppose I should prove myself a brute, and trample upon you."

"I will not 'submit' to a brute," she plied, with energy, "but I have your promise, and if you have sometimes been almost brutal to me I believe it has been largely my own fault. Every man is a mixture of the brute and the knight. It depends upon his wife which side he turns to her. If she degrades herself by contending with him, she deserves the treatment she will receive—if she appeals to his chivalry he will enthrone her."

"Don't generalize, Portia," laughed Arthur, "though as far as this particular man is concerned you may be right. But how will you 'submit,' dear, if I lay down no laws?"

"Oh, you are quite certain to do that," she retorted with assurance.

"And you are certain to recover from this attack of meekness."

They both laughed, and the conflict of the morning seemed life a nightmare of the dim past.

"But what 'stage' is this, Edith?" asked Arthur, wickedly.

"The final stage, my lord," she said.
—Congregationalist.

The American Woman.

Mrs. W. J. Bryan addressed a graduating class at Jacksonville, Ill., recently. Her subject was, "The American Woman." She said, among other things: "The public finds the American woman an interesting subject. This interest follows from the unique position in which the American women stand to-day. The American woman should be sufficiently independent to study her own surroundings, choose her own course and live the life which is best for herself and those nearest her, without regard to the opinions of the outer world. While we hear a great deal these days about equality, the real permanent advancement of woman depends on her own individual development. When man finds in woman a thorough appreciation of his work and aims; when the mind of woman becomes the perfect supplement and complement of the mind of man which the creator intended it to be, then will all the discussions as to the right and privileges cease. Woman has long been a recognized power in the spiritual world, and when one looks into a church in any part of our land, and sees how much of the work is done by woman, it seems almost superfluous to say that the ideal of American womanhood is attained under a threefold development of the physical, the mental and the spiritual."

A LITTLE child went to church with his mother. The service was somewhat long, and utterly incomprehensible to the child. Consequently he fidgeted. His mother reproved him several times. At last she leaned toward him.

"Bobby," she whispered, "if you act badly I'll never bring you to church again."

A gleam of hope dawned in Bobby's weary eyes.

"Mamma," he said, eagerly, "how bad will I have to be?"

"IMPOSSIBLE!" exclaimed the caller to the proud mother. "I can't believe that your son, who has only been in the employ of that rich corporation for six months, is already a director."

"Well, I can. James is a splendid penman, and here is the news in his last letter. He has just finished directing 10,000 circulars."

"Do YOU believe in heredity, Mrs. Simpson?"

"Indeed I do; every mean trait Bobby has I can trace back to his father."

"Does his father believe in heredity, too?"

"Yes; he traces Bobby's faults all back to me."

A Little Dutch Garden.

I passed by a garden, a little Dutch garden,
Where useful and pretty things grew—
Heartease and tomatoes
And pinks and potatoes
And lilies and onions and rue.

I saw in that garden, that little Dutch garden,
A chubby Dutch man with a spade,
And a rosy Dutch frau
With a shoe like a scow,
And a flaxen haired little Dutch maid.

There grew in that garden, that little Dutch garden,
Blue flag flowers, lovely and tall,
And early blush roses,
And little pink posies—
But Gretchen was fairer than all.

My heart's in that garden, that little Dutch garden;
It tumbled right in as I passed,
'Mid wildering mazes
Of spinach and daisies,
And Gretchen is holding it fast!

—Hattie Whitney.

His Wife.

It had been a month of unfortunate happenings to me, Ralph Harcourt. My yacht had been wrecked; my mare had gone dead lame; the girl to whom I was engaged had jilted me; and worse than all, I had just made the startling discovery that I was terribly involved in debt. I could see no chance of ever being able to extricate myself from difficulties, and I felt so peculiarly wretched that I had just begun to think that if I could hit upon any easy, speedy way of making my exit from the stage of existence, I would—when the door opened and my chum, Jack Holden, entered the room and thus addressed me:

"Well, Ralph, old man, what's up."

After telling my state of affairs and my gloomy prospects he exclaimed:

"Why not marry an heiress?"

"Thanks," I replied, bitterly, "the suggestion is good, but, I fear, purely chimerical."

"Not so fast, Ralph," returned my friend. "Marjorie Vernum has come to town, and I saw her to-day, and from what transpired during that interview I know you can have her for the asking."

"Impossible!" I exclaimed, and it may be added, I shrank with a feeling nearly akin to repugnance from the idea of linking myself to a woman who could suffer herself to be won unsought.

"Now, see here, Ralph, boy," he continued, "I know what I have told you to be the case, and Marjorie, though not handsome, is one of the best and nicest little girls imaginable. But you know her, do you not?"

"Yes," I replied, "I have met her in society, but I am bound to add that I never noticed her, and no more did she me."

"There you are again. She admired you particularly, and for reasons of her own is anxious to marry now, and may be had for the asking."

"Yes," I continued, "that is quite true, but—" But at the sound of that disagreeable little conjunction my friend lost all patience, and, rising, left the room.

Of course I did think the matter over, and, after the first shock had passed, I came to the conclusion that it would be utter madness for a poor devil in my position to throw such a chance away, and it was my bounden duty to go in for the heiress and win her if I could. * * *

We were married in June, and when once my debts were all paid I felt as light as a bird, and having always believed that if wealth does not bring happiness it at least brings an exceedingly good imitation off it, I had no need to change my opinion then, when I found myself the possessor of a charming house in town and one in the country, with as many horses as I liked to keep.

My wife had her pursuits; I had mine, and we followed them without interfering with each other in any way. Like two parallel lines we moved along, ever together, but ever apart—always near—never approximating; and beyond knowing that she had the sweetest and most amiable disposition in the world I knew no more of the inner life

of thought and feeling of my own wife than if she had lived a thousand miles apart from me.

Strangers yet we indeed were, even after having been a year together. But as time wore on I found myself trembling at the sound of a certain light footfall, and blushing like a schoolboy if my hand came in contact with a certain small, white one. I at last awoke to the startling and painful conviction that I was deeply, irrevocably, passionately in love with my own wife. I was bitterly conscious of her indifference. Indeed, as I was thus fully persuaded of her coldness, and too proud to beg for love, this state of affairs might have gone on forever had not an event occurred which interrupted the even tenor of our ways.

One day while out riding I was thrown from my horse and so severely hurt that my recovery was very slow; so slow that the doctors began to fear the worst, and at last informed me that if I wished my days to be long in the land I must go south before winter set in.

Well, the day came around when I was to go south, and when I sailed I did not go forth alone, for my wife was with me. That evening I was very tired, but the next morning as I lay there on deck and felt the vessel bounding over the glad, bright water, the sensations I experienced were pleasant beyond description. Then, too, there was the charm of being alone with her; at home she always in a crowd, but here we were isolated, sailing away and away over the wide ocean together, where I might always gaze into that sweet face, which for months had been the only face in all the world for me.

Thus time went on until we had nearly reach our destination, but the very night before our expected arrival I was suddenly awakened from sleep, and a moment latter Marjorie rushed into my cabin, exclaiming breathlessly:

"Get up as fast as you can, or we shall be too late! The ship has sprung a leak, and we are sinking fast! They are making for the boats!"

Alas! She might as well have asked a blind man to hasten. I tried to do so, but it was in vain. At last, crawling onto the deck, I beseeched, nay, implored Marjorie to leave me to my fate and try and save herself, but instead of complying, she turned to me with a look in her white face which I shall never forget to my dying day, and said: "No, nothing can induce me. If you must die, I shall die with you. You are my husband in life or in death. I will never leave you again!"

Oh, strange union of two hearts so long divided! Oh, strange destiny, only to lift the veil from those hearts when life was over and the surging sea yawning to engulf them!

I put my arm around her and drew her close to me. I had sunk exhausted on the deck, and she was kneeling beside me, and, looking into her face, dim as the light was I read such a revelation there that for an instant I felt as if heaven had been suddenly opened to me, and I gasped rather than said:

"Oh, Marjorie, my love, dearest! Is it—oh, is it ture? Have you at last learned to care for me?" "Care for you!" she repeated, "that is not the word. My husband, I love you—have long loved you with my whole heart. I was too proud to let you see it, or—" "Oh, my darling!" I cried in despair, "why did you not tell me this before? And how could you not see that it was my love for you which has been killing me? And now it is all too late!"

I folded her to my heart as I spoke, and so absorbed in each other had we become that for some time we did not perceive that we were now quite alone on the deserted wreck, around which an ominous silence reigned. We climbed to the bow, but it was both a painful and awful position to remain in during all the long hours of that near-to-be-forgotten night.

However, when the morning dawned a joyful surprise awaited us. By some miscalculation, a most fortunate one for us, we had been much nearer land than was thought; so near that the people on shore could see the submerged wreck with their glasses, and immediately sent over a boat for us, and the night of terror we had spent seemed only a frightful dream, from which we awoke to a delicious sense of peace and repose, and the joy bells pealed out delicious melodies in both our hearts. "From out of suffering let sweetness spring."—Boston Post.

Caring for One's Clothes.

Girls should be early taught the importance of caring for their clothes. With some, neatness is innate, but many, if allowed to follow their own inclinations, kick off their shoes, drop their clothes in a heap on the floor, and in the morning "jump into them" regardless of appearance or of hygienic laws. Teach the girls, and boys, too, to hang their clothing, undergarments especially, over the back of a chair, at night, where the air will circulate through them, for this is as important as airing the night dress and bedding in the morning. Stockings, if left in a heap where no air is stirring, will be clammy in the morning, especially if they were wet with perspiration at night. Those who perspire freely should hang their waists wrong side out to the air, and never hang them in a close closet. Undervests that are worn all day should not be worn at night. Old loose ones should take their place. In the summer, nothing but the nightgown is necessary.

As a girl grows older she should learn to shake and brush her gowns and jackets, especially her best ones, before hanging them up; also to sponge off any spots, tighten the loose buttons and repair any breaks, so that the garments are in perfect readiness for instant use. It is annoying to wait for a rip to be mended or a button to be sewed on at the last moment, when the horse is harnessed and you youself are ready. Gloves, shoes and hats are in the same category, for a young girl may be dressed ever so well, yet the broken and knotted shoestring, the dusty hat or the ripped glove spoil the effect. Velvet collars, ribbon loops on hats, and the gatherings about an armsize hold dust, and the back of the jackets and waists gather soilure from braided hair. The linings of chokers and wrists absorb impurities from the skin and need to be replaced by fresh ones occasionally. Laces and veils should be ironed when mussed, and the ends of ribbons clipped to avoid the worn and frayed look.

The Rev. Robert Collyer of New York said the other day, in an address to the Horace Mann graduating class: "When you rise from your seats you will have your whole lives before you. No matter what you do, whether blacksmithing, for many years as I did, or something finer, give your whole selves to it. Now, you young men and women have a lot of work to do; just let me tell you one thing: Be sure of the rivets. Keep right down to your work, and see that your day's work is well done by sundown, and don't try to get rich at a stroke."

He prayeth best who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all.
—Coleridge.

Lost wealth may be replaced by industry, lost knowledge by study, lost health by temperance or medicine—but lost time is gone forever.—Samuel Smiles.

Nor knowest thou what argument
Thy life to thy neighbor's creed hath lent,
All are needed by each one;
Nothing is fair and good alone.
—Emerson.

"I'd like to find some business that isn't overcrowded."

"If you do, you'll probably find that there isn't anything in the business to attract a crowd."

Patriotism is a blind and irrational impulse unless it is founded on a knowledge of the blessings we are called to secure and the privileges we propose to defend.—Robert Hall.

DOMESTIC ECONOMY.

Hints to Housekeepers.

To restore velvet that has been spotted by rain, dampen thoroughly on the wrong side, then hold over a hot iron to steam, taking care not to let it touch the iron.

For a spinach salad place a quart of young spinach leaves in a bowl with a Spanish onion cut up fine, and a little mint. Pour over it half a pint of plain salad dressing and garnish with hard-boiled eggs.

A heavy brush for a hardwood floor is a great labor saver when it has, as some of them do have, a little reservoir of oil at the top, which is gradually let down, and the floor is oiled and rubbed at the same time.

It is well always to remember the proportions of vinegar and oil in the French dressing: three-fourths of oil to one-fourth of vinegar, though the proportion varies to some extent, according to individual taste.

The nasturtium sandwiches, which are delicious served with salads, are made of the petals of the flowers of the young leaves placed between slices of thinly buttered bread, the plate being decorated with the blossoms.

Pea salad is made of peas cooked in salt water and set aside to cool. In the meantime have a white onion boiled, and when the peas are cold add it to them, chopped fine, with one hard-boiled egg. Make a dressing of lemon juice, oil, salt and pepper to taste.

Chamois makes as durable and satisfactory a duster as can be used. To keep it clean it must be washed in soap suds, dried in the shade and rubbed dry. It will hold a little dampness and is satisfactory in this way for dusting. Imitation chamois is very good and less expensive. Dusters should be kept for the purposes for which they are intended, and should never be used for anything else.

Don't throw away the trimmings from your new tablecloths. Those long linen threads you will need when your tablecloth begins to break a little. With them you can prolong its span of life many days. Also try in ironing your tablecloths to have them folded in different ways to vary the creases, so that the wear will not come always in the same place.

If one wishes to have delicious tea, it should be made in an earthen teapot in which boiling water has stood for some time: When the pot has become thoroughly heated, the water should be poured off, and in its place should be put one teaspoonful of tea to each half pint of water to be used. Add water that has reached the boiling point, and set the teapot on the back of the stove for five minutes. Some send it directly to the table and cover with a cosey for ten or twelve minutes.

For some time the special value of cotton fabrics for summer-house service as hangings and draperies has been known. Their growing excellence in manufacture, which has brought design and finish almost to perfection, has promoted these fabrics to quite general town-house use. The fact that moths pay no attention to them makes them popular with housekeepers. It would, perhaps, be a surprise to one who has not given the matter recent attention to discover what excellent effects can be produced in hangings, furniture coverings and even rugs that are made of cotton.

For taking spots from carpets use ammonia or ox gall and water. For the former use two tablespoonfuls of household ammonia to four quarts of water. Half that amount will be all that will be needed usually. Use one tablespoonful of ox gall to a quart of water. Take a sponge of flannel, not too wet, and rub until nearly dry. Lime spots can be removed with vinegar. Use quickly and wash off. For soot cover quickly with salt or cornmeal and sweep up. For ink, pour milk over the place, and as it becomes discolored absorb it with blotting paper or coarse butcher's paper. Then wash with warm water and castile soap. Cover grease spots with pulverized magnesia or cornstarch, fuller's earth or buckwheat flour. Cover with brown paper and place over it a slightly warm iron. Where the color has been taken out it can sometimes be restored by sponging with weak vinegar, or spots made by an alkali by using chloroform.

Egg salad is a cool-looking, appetizing addition to the summer supper table, when hot foods seem more or less distasteful. It is especially effective when the color scheme of yellow is to be carried out. Boil six eggs for fifteen minutes, then put into cold water. When thoroughly chilled, remove the shells and cut the eggs into slices. Arrange these, overlapping each other, in a salad dish lined with crisp lettuce leaves. Cover with a French dressing consisting of four tablespoonfuls of olive oil, a tablespoonful each of vinegar and lemon juice, half a teaspoonful of salt, a pinch of cayenne and a half-teaspoonful of mustard. A few teaspoonfuls of mayonnaise and a little finely chopped parsley sprinkled over the top add to its appearance as well as toothsomeness.

Domestic Hints.

Catsup for Fish.—Mix thoroughly together one pint of walnut catsup, one-half of a cupful of freshly grated horseradish, two teaspoonfuls of made mustard and one-half of a cupful of the vinegar in which nasturtiums have been pickled. Shake thoroughly and bottle. Will be ready for use in two days.

Fruit Salad.—Remove the sections of pineapple with a silver fork. Stone the cherries, being careful to save the juice. Hull the berries, mix all together, place on lettuce leaves and garnish with stars of mayonnaise dressing. Another way: Make a bed of lettuce leaves on a glass dish, keeping the fruit separated one from the other; make three mounds and garnish in the same way. Select the dark, almost black cherries, as it gives you three distinct colors.

Baked Eggs.—For each person allow two tablespoonfuls each of rich cream and fine bread crumbs, one-half of a teaspoonful of finely chopped parsley, five drops of onion juice, a dash of salt and pepper and one egg. Butter individual baking dishes, mix together the crumbs, cream and seasoning, and put one-half of it in the dishes. Into each dish carefully break the egg, cover with the remainder of the bread mixture and place in a hot oven until the eggs are set.

Cherry Roll.—Prepare a dough as for baking powder biscuits, either with or without eggs, spread thick with stoned sour cherries, roll up and place in steamer to cook, or dust with sugar and dot with bits of butter, place in a baking pan, pour a tablespoonful of water in the pan, and bake in hot oven until a delicate brown. Serve hot with hard or cherry sauce. For the cherry sauce, cream one-half cupful of butter with one heaping cupful of powdered sugar. Stir in as many bruised cherries as the sauce will take without separating. The sauce should be cold when served.

Jelly Roll.—Stir the yolks of four eggs with three ounces of powdered sugar for ten minutes; beat the whites to a stiff froth; add one tablespoon of powdered sugar; continue to beat a few minutes longer; add half a teaspoonful of vanilla to the yolk mixture, then add it to the whites; stir until well mixed, add four ounces sifted flour; stir it in lightly; butter a long, shallow tin pan, and line the bottom with thin brown paper, but do not butter the paper; pour in the cake mixture, smooth with a knife and bake in a slow oven. Put a piece of paper a little larger than the cake on the table and dust it with powdered sugar; when the cake is done remove it and let it stand a few minutes; then turn it out of the pan on the sugared paper; remove the paper from the cake, spread over quickly a thin layer of jelly, take hold of the paper and roll the cake up. Wrap the paper around it and let it lie till cold.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 19, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Sept.	Dec.
Wednesday	73⅛@73⅝	74⅜@75⅝
Thursday	74⅛@73⅝	75⅜@75⅛
Friday	72¾@73½	74¾@75⅛
Saturday	73¾@72¾	75¼@74⅛
Monday	72¾@71⅜	74⅛@73⅛
Tuesday	71 @71½	72⅜@73⅛

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 11 d	6s 0½d
Thursday	5s 11 d	6s 0¾d
Friday	5s 10⅞d	6s 0⅝d
Saturday	5s 11 d	6s 0¾d
Monday	5s 10 d	6s 0 d
Tuesday	5s 9 d	5s 10⅞d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 17 @1 15½	——@——
Friday	1 15⅛@1 15⅜	1 18¼@1 18⅛
Saturday	1 15¼@1 15⅛	——@——
Monday	1 14⅛@1 14⅝	1 18⅛@1 18
Tuesday	1 14¼@1 14⅜	——@——
Wednesday	1 13⅞@1 14½	——@——

Wheat.

Bearish influences have been at work all the week in the wheat market, and prices have been knocked down, both on Call Board and in the sample market. In the Chicago speculative market there was a decline of about 2c per bushel, based mainly on reports of winter wheat turning out better than expected, and on increased deliveries at prominent railroad and seaboard points. The market in England dropped the equivalent of about 4c per cental. In the local market December wheat declined over 4c per cental, and quotations for spot wheat were marked down 2¼@3¾c. Stiff ocean freight rates, few ships and a soft market abroad made an unsatisfactory state of affairs for wheat holders for the time being, bur a few months may bring about decided changes.

It is natural that bearish influences should be uppermost as a rule at this date, for the reason that supplies are largely in the hands of producers, not only in the United States and Europe, hut considerable quantities of wheat still remain in Argentina and India, if not largely in first hands, at least available for shipment to importing countries in greater quantity than was presented a year ago. The Argentine country reports on its seaboard about 8,250,000 bushels, or fully 7,000,000 hushels more than at corresponding date last year. It is claimed that the winter wheat crop in the Eastern States, or more properly speaking in the wheat section east of the Rockies, is turning out better than was anticipated. The unloading of wheat hy Russia, while she claims to have a light harvest, is taken hy some as demonstrating that her crop will not prove as light as she is predicting. All these points make a good showing for the buying interest, and shippers are not slow in taking advantage of them. France is huying outside wheat, and this seldom happens in seasons when there is extreme depression in wheat values, but buyers do not care to call special attention to this fact. They would always have the market weak when they are taking in wheat and firm when they are unloading. If in the course of four or five months most of the world's supply should get into the hands of heavy dealers and manipulators, efforts would be made to boom the market, and would be almost certain to he attended with more or less temporary success, no matter if actual conditions in the matter of supplies as compared with necessities were fully or even more unfavorable for the selling interest than at this date. It makes a great big difference most of the time as to who holds the wheat, whether the market is strong or the reverse.

California Milling	$1 10 @1 15
Cal. No. 1 shipping, alongside	1 05 @1 06¼
Oregon Valley	1 05 @1 10
Walla Walla Blue Stem	1 10 @1 15
Walla Walla Club	1 05 @1 12½
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.17@1.13⅞.

May, 1900, delivery, $1.18⅛@1.18.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.13⅞@ 1.14⅛; May, 1900, ——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1897-98.	1898-99.
Liv. quotations	7s0d@7s1d	6s1d@6s1½d
Freight rates	25@27½s	32@—s
Local market	$1.25@1.30	$1.05@1.07½

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The market is quiet and is lacking in strength. The outward movement has been lighter than for some weeks preceding, the shipments to China showing a decided decrease. That the light movement to the Orient will prove permanent, however, is not anticipated. Inquiry on local account continued of the same slow proportions as for months past. Quotations remain unchanged, but to desirable custom concessions were more the rule than the exception.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

The market for barley is presenting a healthy tone, especially when compared with most other cereals, and is certainly affording to the producer much better returns at this date than wheat. There is a good demand on European account for brewing grades, and prospects are that the entire surplus of desirable stock of this season's yield will be wanted for shipment to England. One full cargo of barley was cleared on Saturday last for the United Kingdom, the British ship Benares taking 53,771 centals, valued at $57,800. This is the initial shipment of the season, and shows an earlier movement than last year, hut at corresponding date in 1897 two cargoes of barley had been cleared. The British ship Ardencraig has since followed with 64,116 centals for same destination. There are four or five ships now taking barley, and most of these will he likely sent afloat inside the next thirty days. Inquiry on local account was not so active as for export, but was of fair proportions. Values on Call Board for future delivery were relatively lower than for spot offerings in the open market, with trading in options not very brisk.

Feed, No. 1 to choice	95 @1 00
Feed, fair to good	91¼@ 93¾
Brewing, No. 1 to choice, new	1 05 @1 10
Chevalier, No. 1 to choice	— @ —
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 87½@89½c.

December, 1899, delivery, 90¼@92c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 91¾@ 91c; seller 1899, new, 89@89¼c.

Oats.

For new crop California oats, white and red, about the only sorts now offering in noteworthy or quotable quantity, the market has been inclining in favor of buyers, as is almost invariably the case at the opening of the season, with offerings largely of rather common quality. Some very good white oats, however, have already been received, and choice to select are expected to make a fair showing in the near future. Best qualities are more readily placed at full current quotations than are poor grades at the lower figures, the weakness of the market being most pronounced on common to fair qualities.

White Oats, fancy feed	1 30 @1 35
White, good to choice	1 17½@1 25
White, poor to fair	1 10 @1 15
Gray, common to choice	1 25 @1 30
Milling	1 30 @1 40
Surprise, good to choice	1 35 @1 45
Black Russian	1 10 @1 15
Red	1 07½@1 15

Corn.

Quotable values remain in much the same position as previously noted. Stocks were materially increased the past week by rather free arrivals of Eastern, one day's receipts aggregating 150 tons, or ten large carloads. Most, if not all, of this corn represents purchases made by local dealers prior to its arrival. There is very little local product offering, and there will be no change in this regard for some time to come. Small Yellow is obtainable only in a retail way.

Large White, good to choice	1 12½@1 17½
Large Yellow	1 10 @1 12½
Small Yellow	1 40 @1 45
Eastern Mixed	1 07½@1 10

Rye.

In quotable rates there are no special changes to record, but there is so little doing that values are necessarily rather poorly defined.

Good to choice, new	97½@1 02½

Buckwheat.

Stocks are small and mostly imported product. Owing to inactivity, quotations are based at present upon the views of local jobbers.

Good to choice	2 25 @2 50
Silverskin	— @ —

Beans.

Firmness in the hean market is fully as pronounced as noted in last review, and no likelihood of weakness being developed in the near future, in fact, no prospect of buyers being able to dictate at any time during the current season what might he termed low prices on any variety, when compared with values which have been lately current. The strength of the market on Limas and most white varieties, such as Lady Washington, Pea and Small White, is owing to the light acreage here of these kinds this season, and to prospective increased Eastern demand in consequence of poor crop on the Atlantic side. A fair yield of Bayos and Pinks is expected, most of the seeding having been of these varieties, but with such a good demand as has been lately experienced for colored beans, not only from Northern coast points, but also from Texas, Arizona and New Mexico, there is no reason to anticipate any glut of offerings of colored sorts, or of any necessity of making great sacrifices to effect sales.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 05 @2 15
Lady Washington	1 70 @1 80
Butter, small	—— @——
Butter, large	—— @——
Pinks	2 10 @2 20
Bayos, good to choice	1 85 @1 95
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	4 15 @4 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Late advices hy mail from New York City give the following review of the bean market, prices quoted being per 60-lb. bushel:

The past week has shown some radical changes in the hean market. Fresh supplies have come forward moderately and advices from the country have been of a very stimulating character. Lessened acreage and generally unfavorable outlook for the crop, owing to the severity of the drouth, have been the chief reasons urged for the bullish talk by interior shippers, and our market has gradually responded to the conditions prevailing in the country. So for as exporters are concerned they have shown but little interest in white beans, but the trading on home account has improved, buyers, as usual, operating more freely on an advancing market. Marrow sold mostly at $1.50 during the first half of the week, but have since worked up gradually and are closing rather firm at $1.52½@1.55. Modium and Pea have shown most strength, prices advancing 7½@10c. Recent sales of Pea have been mainly at $1.40, and choice lots and not now be bought for less. Medium have reached $1.45 in a small way for very fancy quality, but the market has not become fully established as yet above $1.40@1.42½, though it is firm at that. A fair quantity of Red Kidney has been taken for export, and most of the orders were filled at $1.70; possibly the feeling is trifle steadier at the close but choice stock is still offering at that price. Very few White Kidney here. Yellow Eye are doing a little better. Turtle Soup steady but quiet. Lima have advanced; thore is quito a confident holding. Scotch peas in bags have worked up to $1.10, and are now sparingly offered at that. Green very scarce and values somewhat nominal in consequence; they are worth rather more than Scotch.

Dried Peas.

There is the same absence of trading as previously noted, supplies being light and not heing urged to sale. The market has a firm tone, especially for Green Dried or Blue Peas.

Green Peas, California	2 30 @2 40
Niles Peas	2 00 @2 10

Wool.

Market remains firm and is likely to so continue during the balance of the season. There is not much business to report, for the substantial reason that wools are not at present offering in this center in sufficient quantity to admit of any noteworthy activity. If the wools were available, there would be more doing, as inquiry is not lacking, and fully as good prices are obtainable as have been realized at any time this season. Most of the Spring clip of the coast, unless it be of Oregon and Washington bands, is now out of first hands, and these Northern wools are being rapidly secured. Fall wool will begin to arrive freely in about thirty days, but not the best qualities. The latter will arrive mostly during the late Fall and early Winter months. Heavy and defective Fall may drag at comparatively low prices, but for bright and free wools a good demand is expected and a firm market.

SPRING.

Humboldt and Mendocino	15 @18
Northern Sacramento Valley, free	12 @14
Northern Sacramento Valley, defective	9 @11
San Joaquin foothill, free	10 @12½
San Joaquin foothill, defective	8 @10
San Joaquin plains and southern, 7 mos.	—@—
San Joaquin plains and southern, 12 mos.	7 @10
Nevada, as to condition	10 @14
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @18

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	—@—
Plains, defective	—@—

Hops.

There is no business to report in the local market, stocks being practically exhausted, particularly of good to choice qualities. It will be fully thirty days before new need he expected in quotable quantity, and not before then can any business of consequence be looked for. Growers and dealers are too far apart in their views as regards values to encourage the making of contracts for forward delivery. Dealers would like to contract desirable growths of new at 12@13c, but present indications are they will find it necessary to pay more money. An advance in bids of about 2c per lb. might bring out some sellers.

Good to choice, 1898 crop	14 @17½

The following report of the hop market is published by a New York authority under recent date:

There is no change in the local hop market. The trading in very light, neither brewers, dealers nor exporters showing much disposition to oporate, but the light remaining stocks the world over make a generally steady holding. Those who own hops are not inclined to urge sales, certainly not until the prospects of the growing crop are a little clearer. The few sales making are in the range of our quotations, and really fine qualities are no lower than they have been for some weeks past. Only a little business is transpiring in the interior of this State, as farmers are still inclined to hold rather than accept the prices bid. Crop reports are conflicting. Dry weather has retarded the growth of the vines and the yards are looking none too well for this season of year. On the Pacific coast the vine has been making fair progress, and though vermin are said to be increasing in the northern sections, the present outlook is for a larger yield than last year. Frequent showers and warmer weather have naturally improved the condition of the crop in England. Most of the reports are summed up in the following concise statement: "The plantations continue to progress very rapidly, and much of the backwardness of a month ago has been made up. Although there is a general sprinkling of vermin it does not increase materially, and very few growers have thought it necessary to commence washing."

Hay and Straw.

Receipts of hay were larger than for preceding week, which was not accompanied by a corresponding increase in the demand, and the market in consequence presents an easier tone, although in the matter of quotable values there is little difference to report from the figures last given. Compressed, or wire-bound hay in small hales for export, has been lately selling to better advantage than have the large bales for local use, the latter being in heaviest supply, as compared with the requirements.

Wheat	8 00@10 00
Wheat and Oat	7 00@ 9 50
Oat	7 00@ 8 50
Barley	6 50@ 7 50
Alfalfa	5 00@ 7 50
Timothy	——@——
Compressed	8 00@14 00
Straw, ₱ bale	25@ 40

Millstuffs.

Prices for mill feed showed little change during the week. Bran was in only moderate receipt and was rather steadily held. Middlings and Shorts were in light stock, with inquiry for both descriptions quite limited. Rolled Barley did not incline in favor of buyers.

Bran, ₱ ton	15 50@16 50
Middlings	17 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	21 00@21 50
Cornmeal	24 00@ ——
Cracked Corn	25 00@ ——

Seeds.

Offerings are light of all descriptions of seeds quoted herewith, and trading is necessarily of very small proportions. In the matter of quotable values there are no changes to note.

	Per ctl.
Mustard, Trieste	3 50@——
Mustard, Yellow	2 50@3 00
Flax	——@——

	Per lb.
Canary	3 @3½
Rape	3½@4
Hemp	4½@4½
Alfalfa, Utah	—@—

Bags and Bagging.

Those interested in the bag trade are anxious concerning a Calcutta hag ship destined for Portland which is now considerably overdue. Should this ship fail to put in an appearance at an early date, asking rates for Grain Bags will be apt to he further advanced at least quarter of a cent. Values for other Bags and Bagging remain unchanged, with little doing.

Calcutta Grain Bags, buyer July	5¼@—
San Francisco Grain bags, 22x36, spot	5¾@ 5¾
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5¼@ 6

Hides, Pelts and Tallow.

The general features of the Hide market are as last noted, values being well maintained in consequence of light offerings. Values for Pelts are ruling steady, with fair inquiry at prevailing rates. Tallow is not in very active request at present, but values are not quotably lower.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	—@10	—@ 9
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	—@ 9	—@ 8
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

Market continues to be quite lightly stocked and is firm at the quotations. Owing to the small crop this season, not much wholesale or export trade is looked for. Moderate quantities of Extracted have been already secured, however, for shipment to Europe.

Extracted, White Liquid	7¼@ 7½
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	10 @10½
Amber Comb	7½@ 9

Beeswax.

There is a poor display of this article at present, either in wholesale or jobbing hands, and market is firm at unchanged rates.

Good to choice, light, ₱ lb	26½@27
Dark	25 @26

Live Stock and Meats.

Market for Beef has ruled quiet, and owing to moderately free offerings for this date, market was easier, but not quotably lower. Veal sold to fully as good advantage as last quoted. Tendency on Mutton was to more firmness. Hog market remained favorable to sellers, with no excess of offerings.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5½@ 6
Hogs, small, fat	5¾@ 6
Hogs, large hard	5⅝@ 5¾
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	9 @10
Veal, large, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	7½@ 8

Poultry.

There was a generally weaker market for Chickens than quoted in last review, especially for young stock, with arrivals and offerings on the increase. Turkey market was dull and weak for Old, while Choice young were in request at good prices, hut there were few of this sort obtainable. Ducks which were large and fat received fair attention, hut common stock dragged at low figures. Geese and Goslings sold at a rather low range. Pigeon market was very quiet.

Turkeys, young, ₱ lb	16 @ 18
Turkeys, live hens, ₱ lb	11 @ 12
Turkeys, live gobblers	11 @ 12
Hens, Cal., ₱ doz	4 50 @5 50
Roosters, old	4 00 @4 50
Roosters, young, (full-grown)	5 50 @6 50
Fryers	4 00 @4 50

Broilers, large	3 50	@4 00
Broilers, small	2 50	@3 00
Ducks, ℔ doz	3 00	@5 00
Geese, ℔ pair	1 12½	@1 25
Goslings, ℔ pair	1 25	@1 37½
Pigeons, Old, ℔ doz	1 25	@1 50
Pigeons, Young	1 50	@1 75

Butter.

While the market is better supplied with fresh butter than it was the preceeding week, some detained shipments having come forward in the interim, and values for choice to select fresh were maintained at a little higher range than last quoted. Lower grades did not move so readily, and for such it was the exception where satisfactory figures were realized.

Creamery extras, ℔ lb	21	@22
Creamery firsts	20	@—
Creamery seconds	19	@—
Dairy select	19	@—
Dairy seconds	16	@18
Dairy, soft and weedy	—	@—
Mixed store	13	@14
Creamery in tubs	18	@20
Pickled Roll	18	@20
Firkin, Cal., choice to select	18	@20
Firkin, common to fair	15	@16

Cheese.

Market is ruiing moderateiy firm, especiaiiy for fine quaiities, just sufficiently seasoned to be sought after by the most particular trade For skimmed milk cheese, or for stock showing any serious defects, the market is weak and dragging.

California fancy flat, new	9	@—
California, good tc choice	8	@ 8½
California, fair to good	7½	@ 8
California Cheddar		—@—
California, "Young Americas"	8½	@10

Eggs.

As foresbadowed in iast issue, choice to seiect eggs are commanding improved figures, with few of this sort arriving from any quarter. Prices for common qualities have not advanced and are not iikely to be materiaiiy higher very soon. Eastern eggs are in fairiy iiberai receipt, both fresh and cold storage stock.

California, seleot, large white and fresh	22	@23
California, select, irregular color & size	19	@21
California, good to choice store	17	@19
Eastern, as to section and grading	16	@19
Eastern, cold storage	—	@—

Vegetables.

There was no scarcity of any description of mid-summer varieties, and prices for most kinds were iow. Changes in quotations were not numerous or very marked. Yellow Danver Onions soid at a decline, with offerings in excess of the demand. Red Onions are practically out of stock, the season for these having about ended. Silver Skin and Pickle Onions have not yet put in an appearance in sufficient quantity to warrant quoting.

Asparagus, fancy, ℔ box	—@	—
Asparagus, No. 1, ℔ box	1 50@	2 00
Asparagus, common to fair, ℔ box	50@	75
Beans, Wax, ℔ lb	3@	4
Beans, Vacaville, String, ℔ lb	2½@	3½
Beans, Los Angeles, String, ℔ lb	—@	—
Cabbage, choice garden, ℔ 100	50@	60
Cauliflower, ℔ doz	50@	—
Corn, Alameda, ℔ crate	1 00@	1 50
Corn, Green, ℔ doz	7½@	12½
Corn, Berkeley, ℔ crate	75@	1 00
Cucumbers, Alameda, ℔ large box	40@	65
Cucumbers, ℔ small box	—@	—
Egg Plant, ℔ box	1 00@	1 25
Garlio, new, ℔ lb	2½@	4
Mushrooms, Buttons, ℔ lb	—@	—
Mushrooms, wild, ℔ box	—@	—
Onions, Yellow, good to choice, cental	65@	75
Onions, New Red, ℔ cental	—@	—
Peas, Sweet, Garden, ℔ lb	3@	4
Peas, common, ℔ lb	1½@	2½
Peppers, Green Chile, ℔ box	40@	75
Peppers, Bell, ℔ large box	1 00@	1 25
Rhubarb, ℔ box	—@	—
Squash, Bay, ℔ large box	25	40
Squash, Marrowfat, ℔ ton	—@	—
Squash, Summer, ℔ small box	15@	25
Tomatoes, Bay, ℔ large box	1 25@	1 50
Tomatoes, ℔ small box	40@	65

Potatoes.

Maaket is quotably lower and weak at the decline. Receipts were somewhat iarger than preceding week, while inquiry was lighter, the demand from the north having almost ceased, most of the suppiies required for the Northwest coast section being now obtained at points nearer home.

Burbanks, River, ℔ cental	—	@ —
Burbanks, Bay counties, ℔ ctl	—	@ —
Burbanks, Humboldt	—	@ —
Early Rose	1 15	@1 25
Garnet Chile	1 35	@1 50
Burbanks, ℔ cental	90	@1 50
Sweet River, ℔ cental	—	@ —
Sweet Merced	—	@ —

The Fruit Market.

Fresh Fruits.

The general display and the volume of stocks in the aggregate did not differ much from that of preceding week. Receipts of Apricots were lighter, however, which was to have been expected, as the season for this fruit is rapidly drawing to a close. Apricot market remained firm, with sales of prime to choice mainiy within range of $40@$50 per ton, some select going in a small way in bulk at 3c per ib. Apple market was weak for other than choice to select, with offerings mostiy common quaiity. Select Gravenstein or equaliy desirable stock would probably have commanded an advance on extreme quotation beiow noted. Bartiett Pears continue scarce with values firm, and there wiii doubtiess be iittle of this fruit seen on the market this season. The more common varieties of Pears were sufficiently pientiful to accommodate aii buyers and keep prices at a iow range. Peaches were fairly plentifui, but stocks were iargely of ordinary early varieties and not particularly desirabie. A first-ciass table peach or fine canning stock was not in excessive supply, and such brought comparatively good figures. Sawyer's Seedlings and Early Crawfords in fine condition did not iack for custom. Plums were in free receipt and market iacked firmness. For kinds suitable for canning $20@25 per ton was bid, as to size and conditlon. Grapes did not make much of a display, neither was there much inquiry for them, owing to the abundance and cheapness of other fruit. Watermelons and Cantaloupes were in increased receipt, but weather being more favorable, demand also showed improvement. Nearly ail varieties of Berries in season were in sufficient supply to give buyers the advantage.

Apricots, choice Royal, ℔ ton	50 00@	—
Apricots, Royal, ℔ box	50@	75
Apricots, Pringle, ℔ box	—@	—
Apples, fancy, ℔ 50-lb. box	—@	—
Apples, good to choice, ℔ 50-lb. box	75@	1 00
Apples, Green, common to fair, ℔ 50-lh. box	30@	50
Blackberries, ℔ chest	3 50@	4 00
Cantaloupes, ℔ crate	2 00@	3 00
Cantaloupes, Nutmeg, ℔ crate	1 75@	2 25
Cherries, Black, ℔ box	—@	—
Cherries, Red, ℔ box	—@	—
Cherries, Royal Anne, ℔ box	—@	—
Cherries, White, ℔ box	—@	—
Crabapples, ℔ small box	35@	50
Currants, ℔ chest	5 00@	6 00
Figs, Black, 2-tier box	50@	75
Figs, Black, ℔ drawer	25@	35
Gooseberries, ℔ lb	—@	—
Gooseberries, ℔ 10-lb box	—@	—
Grapes, Black, ℔ box	—@	—
Grapes, Fontainebleau, ℔ crate	60@	75
Grapes, Seedless, ℔ crate	—@	—
Logan Berries, ℔ chest	6 00@	7 00
Nectarines, Red, ℔ box	60@	75
Nectarines, White, ℔ box	40@	60
Peaches, fancy wrapped, ℔ box	*50@	75
Peaches, ℔ box	25@	50
Pears, Bartlett, ℔ ton	35 00@	50 00
Pears, Bartlett, ℔ 40-lb. box, wrapped	65@	1 25
Pears, common, ℔ basket	25@	40
Pears, ordinary, ℔ box	25@	60
Plums, large, ℔ ton	20 00@	25 00
Plums, large, ℔ crate	40@	50
Plums, ℔ box	25@	40
Plums, Cherry, ℔ drawer	—@	—
Raspberries, ℔ crate	—@	—
Raspberries, ℔ chest	3 50@	4 50
Strawberries, Longworth, ℔ chest	3 50@	5 00
Strawberries, Large, ℔ chest	2 00@	3 00
Watermelons, ℔ 100	6 00@	10 00
Whortleberries, ℔ lb	7½@	12½

Dried Fruits.

The market is very lightly stocked with new product and, aside from Prunes and Raisins, is bare of last year's fruit. Apricots are not offering freely, either on the spot or for forward delivery, and market remains firm, with prospects of so continuing. It is doubtful if prime in carload lots could be secured at this date in central or northern California under 10c. For choice as high as 13c is asked. In southern California the range of values is reported to be about half a cent lower. Peaches are beginning to arrive more freely, with values for the same unsettled, and considerable difference of opinion as to what the range of prices will be during the next few months. There have been small sales of early arrivals of prime to fairly choice at 9@10c, but these figures are not warranted as quotations. Some dealers are offering August peaches down to 6c, and Sept. delivery as low as 5½c, but they are simply taking chances on being able to secure the fruit at these prices. They are gambling on the future and may be disappointed. It would not be surprising, however, to see Chinese fruit selling down to these figures or lower. Apples are in light supply, with market temporariiy firm, and sales are being made above quotations. New Prunes are reported offering at 3@3½c for the four sizes, Oct. delivery, as to district grown, the top figure being for Santa Claras. In old Prunes there is a moderate jobbing movement, but no wholesale trading reported.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	9	@10
Apricots, Royal, fancy	10½	@11½
Apricots, Moorpark	12	@13
Apples, in 50-lb. boxes, rings, pressed, fancy	—@—	
Apples, 50-lh. boxes, rings, pressed, fair to good	8	@—
Figs, White, fancy pressed	—@—	
Peaches, unpeeled, good to choice	7	@ 8
Peaches, unpeeled, fancy	—@—	
Peaches, peeled, in boxes	—@—	
Pears, unpeeled Bartletts, halved, fancy	—@—	
Pears, halved, unpeeled Bartletts	—@—	
Pears, quartered, unpeeled Bartletts	—@—	
Plums, pitted	—@—	
Prunes, in sacks, 40—50's	7	@—
50—60's	4¾	@ 5
60—70's	3¾	@ 4
70—80's	3	@ 3¼
80—90's	2¾	@ 3
90—100's	2½	@ 2¾
110—130's	2	@ 2¼
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.		
4 sizes Santa Claras and equal	3¼	@—
4 sizes San Joaquin and Northern	3	@—
Prunes, Silver	4	@ 7

COMMON SUN-DRIED.

Apples, sliced	4@	6
Apples, quartered	4@	6
Figs, Black	—@—	
Figs, White	—@—	
Peaches, unpeeled	—@—	

Mail advices of late date from New York City give the following review of the dried fruit market in that section:

There has been a steady, jobbing demand for evaporated apples, and with stocks gradually reducing tone is somewhat firmer, though prices show no improvement. Reports as to the coming crop are conflicting but it is generally thought a fair quantity of apples will be a available. Some speculative business in futures is being reported at somewhat higher prices than heretofore, 7½c having been paid for prime wood-dried for Oct. and Nov. delivery. No sun-dried available. Chops and waste show a wide range in quality, many being wet and damp. and such stock is urged for sale at low and irregular figures, though strictly choice dry are held about steady at 2½@2¾c for chops and 1¾@1¾c for cores and skins. Raspberries are scare and firm, but other small fruits quiet and somewhat nominal. No new fruits have appeared as yet. California fruit has had a very fair demand of late and market rules steady for desirable stock at about previous range of prices.

Apricots, Cal. Moorpark, 1898, per lh	14	@16
Apricots, Cal. Royal, 1898, per lb	13	@14½
Peaches, Cal., 1898, unpeeled, per lh	9	@12
Prunes, Cal., 1898, per lb	3	@ 8½

Raisins.

Values remain quotably in same position as for some time past. Market is very quiet, as is to be expected at this time of year. About the only business doing at present is a light jobbing trade.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—@—	
Dehesa Clusters, per box	—@—	
Fancy Clusters, per box	—@—	
London layers, 3-crown, 20-lb box	—@1	20
London layers, 2-crown, 20-lb box	—@1	10
Valencia layers, ℔ 20-lb box	80@1	00
(Usual advance for fractions.)		
Loose Muscatel, 4-crown, ℔ lb	5¼@5¾	
Loose Muscatel, 3-crown	4¼@4¾	
Loose Muscatel, 2-crown	3¼@3¾	
Loose Muscatel, ungraded	—@4	
Sultanas, unbleached	—@4½	
Seedless Muscatel	—@3¾	
Thompson's Seedless, unbleached	—@6	
(Above prices for loose raisins are for 50-lb boxes.)		
Dried Grapes	2½@2¾	

Citrus Fruits.

Oranges are nearly out of stock, only a few Valencias offering, and scarcely any inquiry from any quarter. Lemon market has been a little more active, owing to more favorable weather, but prices showed no appreciable improvement, stocks proving more than ample for current needs. Limes were in good supply and market was easy in tone.

Oranges—Navels, ℔ box	—@—	
Mediterranean Sweets	—@—	
Late Valencias	1 00@	3 00
Lemons—Cal., select, ℔ box	2 50@	3 00
Cal., good to choice	1 50@	2 00
Cal., common to good	75@	1 50
Limes—Mexican, ℔ box	4 00@	4 50
Cal., small box	75@	1 00

Nuts.

Almonds of the coming crop were auctioned at Davisville, for September delivery, to the highest bidder at following figures: Nonpareils, 10c; I X L's, 9½c; Drake's Seedling, 7½c; Languedocs, 7c. Market is bare of Almonds and Walnuts. There are only moderate stocks of Peanuts, and prices are being well maintained.

California Almonds, paper shell, ℔ lb	—	@—
California Almonds, soft shell	—	@—
California Almonds, hard shell	7	@ 9
California Almonds, shelled	—	@—
Walnuts White, paper shell	—	@—
Walnuts White, soft shell	—	@—
Walnuts White, Cal., standard	9	@10
Chestnuts, Cal. Italian	6	@ 7
Peanuts, Cal., fair to prime	5½	@ 6
Peanuts, Eastern hand-picked	6	@ 7
Pine Nuts	6	@ 8

Wine.

While there is not much wine changing hands in a wholesale way at present, there is, all things considered, a fair movement outward, both by rail and sea. No heavy quantities are being offered in the wholesale market, and there is no disposition shown to crowd stock to sale at the expense of having to accept lower rates than have been lately current. Quotable values for new Claret in bulk remain at 16@20c per gallon, San Francisco delivery, the customary advances on these figures being asked, as to conditions, where small quantities are delivered.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round iots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	115,304	192,120	143,562
Wheat, ctls	188,192	190,462	99,990
Barley, ctls	38,355	73,365	30,460
Oats, ctls	7,220	21,570	16,175
Corn, ctls	1,230	1,830	1,750
Rye, ctls	1,695	3,015	....
Beans, sks	6,448	9,010	2,123
Potatoes, sks	17,315	31,657	39,878
Onions, sks	2,538	5,442	9,084
Hay, tons	3,035	4,506	4,511
Wool, bales	2,948	5,227	3,521
Hops, hales	13	83	250

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	67,960	109,200	64,020
Wheat, ctls	115,042	180,128	84,937
Barley, ctls	2,535	3,763	8,318
Oats, ctls	45	50	1,798
Corn, ctls	226	268	1,409
Beans, sks	638	959	901
Hay, bales	339	374	2,209
Wool, lbs	....	....	....
Hops, lbs	3,142	5,323	61,310
Honey, cases	8	12	20
Potatoes, pkgs	1,090	2,645	2,194

California Dried Fruit at New York.

NEW YORK, July 19.—California dried fruits: Market quiet hut steady. Evaporated apples, common, 6½@7c; prime wire tray, 8¼@8½o; choice, 8½@8¾c; fancy, 9@9½c.

Prunes, 3½@8½c.

Apricots, Royal, 14@16c; Moorpark, 16@18c.

Peaches, unpeeled, 10@12c; peeled, —@—c.

Drugs, Chemicals, Strychnine, Phosphorous, Caustic Soda, Carbon Bisulphide, Paris Green and Lows Bait Oil at bottom prices.

J. R. GATES & CO., Druggists,
417 Sansome St., San Francisco.

California's Opportunity in the Oriental Trade.

The population of China has become greater than its land can feed. The Celestial Government has decided that the empire must depend upon America for its future food supply, and it is arranging to throw the country open to trade and induce its people to go into manufactures to enable themselves to buy the food their land cannot yield. This condition gives the United States control of the largest and most profitable commerce the world has ever known. As it will have to be carried on in Pacific coast ports and across Pacific coast territory, it will make the Pacific coast States the most populous in the country and the Pacific coast cities the largest.

The most densely populated territory in the Union will be somewhere on the Pacific coast and in it will be the greatest and the richest American city. It will be on the waters of either Puget sound or those of the bay of San Francisco.

The California State Board of Trade believes that this State is to be the field of the great activity, and is to furnish the city predicted by the political economist just quoted, and proposes that steps be taken to inaugurate a commercial movement looking towards the accomplishment of the prophecy. It is proposed to organize a trade agitation for the purpose of concentrating the transpacific commerce where it belongs—in California. To this end the California State Board of Trade has arranged with Hon. F. X. Schoonmaker for a series of public addresses upon the subject, the first of which was delivered on Monday of this week under the title, "China's Awakening—California's Opportunity."

High Price for Wool.

The highest price received for wool in Montana for five years was paid at Fort Benton, according to a dispatch received from there, a clip of 17,000 pounds sheared by John Washes being sold at 19⅝ cents. The average price of the sales at that point was 18⅝ cents. Buyers from all over the State had appointed the day to go to that point to make purchases and twenty houses were represented.

Almond Growers Organize.

BRENTWOOD, July 15. — The almond growers of the county met here to-day and formed an association, to be called the Contra Costa Almond Growers' Association. William Shafer was elected president and R. Trinbath secretary. Four thousand acres are in almonds. The crop this year will be about 400 tons.

Eastern Fruit Reports.

The Missouri section of the Weather Bureau, July 11th, says: Apples ard wormy, blackberries plentiful ane peaches scarce.

The Kentucky section, July 10, has the following: In the eastern part of the State apples and pears are fairly good, but in other portions are nearly a failure.

Dried Peaches Shipped.

VISALIA, July 15.—The first shipment of dried peaches, this season's yield, were sent out of Visalia to-day. They were of extra fine quality and the shipment was six and a quarter tons. This is not only the first lot sent out of Tulare county, but also the first lot shipped from any point on the Pacific coast.

MOORE, FERGUSON & CO.

WOOL, GRAIN, FLOUR

—AND—

General Commission Merchants,

310 CALIFORNIA ST., S. F.

Members of the San Francisco Produce Exchange.

Personal attention given to sales and liberal advances made on consignments at low rates of interest.

TRACK AND FARM.

Wonderful Success of California Horses.

The harness season for 1899 is very young, but the successes of California and California-bred trotters and pacers have been something out of the ordinary. A careful study of the summaries published in the papers devoted to the harness horse shows a wonderful record. At Denver the California stables swept everything before them. Dr. Book and Ellert have scored for California the present week at Peoria, while at Saginaw, Keating has figured in good style.

At the Syracuse meeting Adbul Ameer by Stamboul was beaten in a six-heat race by Teto. The Stamboul horse won the fourth heat in 2:21¾. The next day Yreka by Albert W. won the 2:22 pace in straight heats of 2:20¼, 2:19¼ and 2:19¼. Millard Sanders by Anteco captured the 2:27 class trot at Bradford, Penn., and took a record of 2:22¼. California blood figured at the Mansfield, O., meeting. Locknager by St. Bel won two trotting races and reduced his record to 2:25. Anita S. by Sable Wilkes proved a winner in the 2:24 class in straight heats of 2:25¼, 2:24½ and 2:22¾. Walter H. by St. Bel won the 2:30 trot in a six-heat battle. At Dover, N. H., Norvin G. by Norval made a great bid for the money in the 2:10 pace. He won the second and fourth heats in 2:12¼ and 2:15 respectively and was the contender in the sixth and final heat. At a Cleveland matinee Flora Directum by Directum and Peko by Electioneer were both winners, the latter mare going the first heat in 2:19.

At the Hartford meeting Faris by the California sire Anteco won the 2:40 class trot and took a record of 2:17½. On the same day King Chimes by the California sire Chimes won the 2:12 pace in straight heats and reduced his record to 2:11¼.

Edith Rowe Graham is the name of a California mare that promises to trot in 2:12 before the season is over. She is by Sable Wilkes.

Ellert, winner of the 2:16 class trot at Peoria, is by Stamboul and is trained and driven by Van Bokkelen. Ellert has won a mark of 2:11¾.

Dr. Book and Ellert should return to California with records of 2:10 or better.

Sidney has already two new standard performers for this year.

Lena Hill, 2:12¾, ex-champion two-year-old pacing filly, has been bred to Electric Bell, the son of Electioneer and Beautiful Bells.

Over $100,000 will be given for harness races on the California circuit this year.—Chronicle.

Inspects the Palo Alto Stock Farm.

Two distinguished representatives of the Japanese Government—Count H. Mutsu, consul at San Francisco, and Inazo Nitobe, special commissioner of the Department of Agriculture and Commerce of Tokio, Japan, paid a visit to the Palo Alto stock farm on the Stanford estate. The gentlemen went to obtain information in regard to the breeding and raising of high-grade harness horses and to gather facts as to the profits in the business.

Supt. Frank V. Covey of the stock farm brought out all the fine horses, showing the grand results achieved in breeding according to the ideas of the late Senator Stanford. He explained in detail the points in connection with the raising and breeding of fine stock and said the prices of high-grade horses had risen quite a little during the past three years.

Inazo Nitobe, the special commissioner, intimated that a favorable report to the Japanese Government might cause large breeding establishments to be begun in his country, which would benefit Californians materially by supplying a market where their produce could be disposed of in large numbers.

$100 Reward, $100.

The readers of this paper will he pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is Catarrh. Hall's Catarrh Cure is the only positive cure known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of testimonials.

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Sold by Druggists, 75c.

Hall's Family Pills are the best.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING JULY 4, 1899.

628,430.—PAPER FILE—Bireley & Simms, Los Angeles, Cal.
628,219.—WATER LIFT—R. E. Browne, S. F.
628,267.—WINDOW SASH LOCK—W. A. Hawthorne, Carson, Nev.
628,223.—FARE REGISTER—S. C. Houghton, S. F.
628,224.—ROPE CLUTCH—S. C. Houghton, S. F.
628,178.—MACHINE FOR FILLING PACKAGES—J. M. Howe, S. F.
628,104.—WINDOW—J. B. Marshall, Fresno, Cal.
628,250.—PLATE HOLDER—G. & M. Maybell, S. F.
628,185.—FINGER TOOTH BRUSH—C. W. Richards, S. F.
628,212.—FRUIT DRIER—E. F. Schneider, North Yamhill, Or.
628,360.—STOCK FOR FIRE ARMS—O. O. Scripture, Prescott, A. T.
628,127.—IRRIGATING SYSTEM—W. H. Shinn, Los Angeles, Cal.
628,149.—SPRING MOTOR—C. Sinclair, Hawthorne, Nev.
628,375.—STAPLING MACHINE—N. S. Wakefield, Pomona, Cal.
628,055.—TRACE CLASP—I. Whealdon, Planview, Or.
31,149.—DESIGN, SHAFT IRON—F. L. Lowe, Orting, Wash.

NOTE.—Plain and Certified Copies of U.S. and Foreign patents obtained by Dewey, Strong&Co., hy mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates. and in the shortest possible time.

Notices of Recent Patents.

Among the patents recentiy obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

FINGER TOOTH BRUSH.—C. W. Richards, San Francisco, Cal. No. 628,185. Dated July 4, 1899. This invention relates to a brush for cleansing the teeth. It consists essentially of a removable tip which may he fitted upon the finger or upon a handle of any description, this tip having bristles or like cleansing devices affixed to the exterior end and adapted to cleanse the teeth. The points of the bristies are made converging so that they will enter crevices between the teeth and the rubber or elastic tip protects the teeth from being struck by the handle when used therewith, and when used upon the finger it gives a very convenient and flexibie means for cleaning the teeth.

MACHINE FOR FILLING AND FOLDING PACKAGES.—John M. Howe, San Francisco, Cal. No. 628,178. Dated July 4, 1899. This invention relates to an apparatus which is designed to form packages from long strips of paper and fill the packages with powder or other material. It consists of a stationary table or carrier, a slide, a crank shaft and pitman connecting with the slide to reciprocate it, and connections by which the feeding mechanism is reciprocated from the main slide. A vertically reciprocating folding plate is actuated by a bell crank lever connected therewith, and a pin on the crank shaft engages the lever and depresses the plate at each revolution of the crank shaft. Material to be filled into the packages is supplied from a suitable hopper and the edges of the strips are turned up and folded over the material.

Industrial Notes.

—A $700,000 sugar beet plant is projected at Santa Fe, N. M.

—There are 953,138 acres public land in Los Angeles Co., Cal.

—Since annexation to the U. S., 12,000 Japanese have emigrated to Hawaii.

—Montana and Wyoming are going in for irrigation projects on a very large scale.

—The Southern Pacific Co. talks of a $50,000 California display at the Paris Exposition.

—"Tons of gold" are reported arriving from the Klondike, but they never get farther than the incoming steamers.

—A flying machine to weigh 10,057 lbs. and operated by compressed air is a projected feature of the exhibition at the next fair of the San Francisco Mechanics' Institute.

—A formal contract has been signed whereby J. P. Morgan & Co., S. Bleichroder, the Deutsche Bank, the Dresdener Bank in Germany, and J. S. Morgan & Co., London, undertake the conversion of the entire foreign debt of the republic of Mexico.

—The British survey steamer Egeria is at San Francisco from Esquimalt, B. C. The English and Canadian governments are to establish a cable between British Columbia and Australia, which will touch at Samoa and Hawaii. The Egeria is now engaged in surveying the route. She will go to Honolulu, taking soundings on the way, and after coaling there will proceed to Apia. From Apia the soundings will be taken to the nearest point on the Australian continent.

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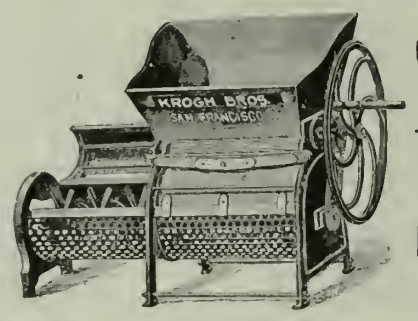
Write for particulars, official endorsements, and testimonials from stockraisers who have successfully used PASTEUR ANTHRAX VACCINE in the United States since 1895 and protected their stock against Anthrax.

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Wine Making Machinery,

—MANUFACTURED BY—

KROGH MANUFACTURING CO., San Francisco, Cal.

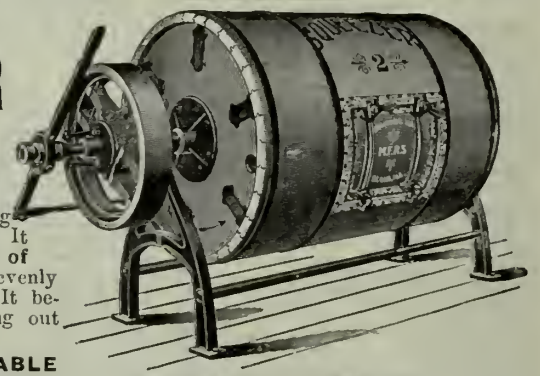


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It Does Not Destroy the Grain.

THE SQUEEZER COMBINED CHURN AND WORKER



will do exhaustive churning at any desired temperature. It **makes a superior quality of butter,** distributes the salt evenly and **prevents mottles.** It belongs in every dairy turning out high grade work.

IT IS SIMPLE, DURABLE AND EASILY WASHED.

Made in a series of Desirable sizes.

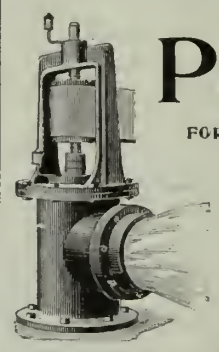
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WOOD'S DEEP WELL

Propeller Pump.

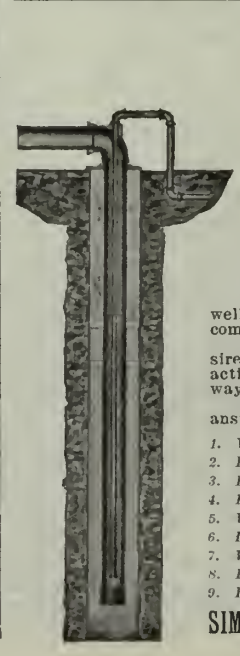
FOR DEEP OR SHALLOW LIFTS FOR IRRIGATION, MINES, RIVERS, VESSELS AND WATER WORKS.

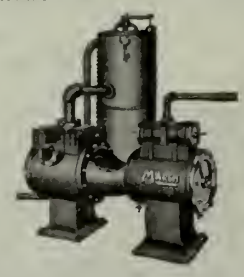


A simple screw propeller pump without valves, gearing or other intricate parts. Requires no pits to be dug to water level. Will pump more water from a well than any other pump on earth.

Catalogue and Estimates Cheerfully Furnished.

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THE Air : Lift : Process,

...WITH A...

Marsh : Compressor.

The illustration shows the Marsh Air Compressor, elevating water from well hy means of the air lift system, and presents many advantages over other compressors for work of this class

They can be connected to automatic governor, to stop and start at any desired variation of reservoir pressure, and will maintain a steady and reliable action at much slower speed than crank and fly wheel pattern—which are always likely to stop on center, if run slowly, and of course will not start again.

We will be pleased to specify sizes and cost of Compressor, etc., if you will answer the following questions in regard to your well and service:

1. *What is the diameter of your well casing, inside?*
2. *How far to water from surface?*
3. *How far below surface does boring or casing extend?*
4. *How many gallons of water do you want per hour?*
5. *What steam pressure do you carry on boiler?*
6. *How far is boiler from well?*
7. *What is the lowest steam pressure you want pump to operate with?*
8. *How much higher than top of well do you want to raise water?*
9. *Is tank located at well; if not, how far?*

SIMONDS SAW CO., Gen'l Agents, 33 Market St., San Francisco, Cal.

Canning Fruit.

Annually great quantities of our finest fruit are wasted because proper care is not taken and right methods employed for its preservation, and that which should have been toothsome and palatable for the household during the winter months is opened only to be thrown away,—the time and labor of the housewife has counted for naught. In the first place in order to be successful in canning fruit one must have the fruit in perfect condition, neither green nor overripe. The next requisite is a good porcelian or granite kettle, one that is used strictly for putting up fruit. Have the best granulated sugar and good fruit jars, and we are ready for our morning's work. One should see to it that fruit jars after use are thoroughly washed, scalded, dried and put carefully away for the the next year's use. The safest plan is to use new rubbers on our bottles each year, but often the old ones are apparently so good that the economical thing seems to be to drop them into a pint of water into which you have put a teaspoonful of pure ammonia, let them remain a few minutes, and then use them again. Often the rubbers fit too loosely, but by placing a second over the first one the lids will fasten securely. It is a mistake, too, to use the lids year after year when new ones can be purchased so cheaply and preserve our fruit in better condition.

Let us consider the subject of strawberries a few moments. It is a well-known aphorism that there is nothing new under the sun, but when we learned a method at cooking school for canning strawberries and preserving them whole and natural, and successfully tried the recipe last summer, we decided there were exceptions to some aphorisms. For the benefit of those who may not know it I give the recipe as it was given us: First, select nice berries in prime condition. If necessary wash them. To one pound of granulated sugar use sufficient water to moisten the sugar. Place on stove and let come to a good boil, skimming well of all impurities. Now drop in about six drops of lemon juice and let boil until it hairs. To this amount of syrup add a pound of the berries and let boil slowly for five minutes. Take from the stove, cover and let stand in a cool place six or eight hours. At the end of that time cleanse your bottle with hot water and fill with the berries. Overflow the jars with syrup and seal tight. On the scientific principle that two bodies cannot occupy the same space at the same time—in canning any fruit, overflow the bottles with the syrup of the fruit and seal immediately. We should first fill the jars about one-fourth full of the berries and then work them down on the sides with a silverplated knife so as to fill the jar compactly with the fruit and expel all air then. Do not stir the syrup after it boils, but by putting in a few agate marbles they will act as an automatic stirrer and prevent the syrup from burning. Should the jars not be air tight, dip a piece of writing paper in warm brandy, place on top of liquid, and over this place a layer of cotton batting. This will prevent the berries fermenting. Raspberries canned in this way are also very nice.

There are some fruits, such as gooseberries, that can be successfully canned without the use of sugar and away from the hot fire. In canning the gooseberry, fill the bottles with the stemmed fruit as far as the first screw of jars, then overflow with water which has previously been boiled and cooled, and seal the bottle securely while under the water, wipe off the jars wrap in brown paper and set away in a cool place. Were our water free from all impurities, it would not be necessary to boil it, but as the chances are against any well of water being absolutely pure, it is best to be on the safe side and boil it.

Every one is more successful with some kinds of fruits than others, and in my labors success has probably been most apparent in my canning of peaches and pears. In canning either of them my method has been to allow one teacup of sugar to every quart jar. Dissolve the sugar in a very little water, let come to a good boil, put into it sufficient fruit for one quart which has been previously peeled and halved, and as soon as you can pierce the fruit with a silver fork fill the jar, overflow with syrup and seal at once. In canning the peaches two or three peach kernels should be dropped in the center of each jar, as these give a flavor to your fruit which otherwise it lacks. If the fruit seems hard either steam it or cook tender in water before dropping into the syrup. During the years that I have put up fruit I have never had a can of peaches or pears to spoil in the least. I always wrap the jars in paper. Anything canned in glass should be kept in a cool, dry and dark place or wrapped in paper, as the light bleaches and injures so many of our fruits.

In speaking of keeping fruit, I cannot forbear digressing from my subject a moment to praise the use of paraffine in keeping our jellies and jams from moulding. Perhaps some like myself may have had trouble in this direction, but paraffine has removed al' trials. For 10 or 15 cents one can purchase a good-size cake of it. When your jelly is cool, shave off a little of your paraffine into a cup, set on the back of the stove and melt, then turn a little over the top of the jelly. A couple of teaspoonfuls is sufficient for a glass of jelly, care being taken to cover every particle of the jelly. This is an extremely nice and economical way to care for jams and jellies.

Before closing my few remarks I should like to tell you of the method given by the cooking school teacher last winter for canning tomatoes. All who have tried it pronounce it the most successful of any method they have used. Scald the tomatoes, dipping them first in hot water a minute, then in cold water a minute, then remove the skins. Place in the jars either whole or sliced, packing closely by working down on sides with silver knife. Fill the jars full, put on rubbers and screw the lids part way down. Place your boiler on the stove, put in the bottom of it a perforated tin, on which place your jars, and fill boiler with lukewarm water sufficient to cover as far as the neck of the jars. As soon as the water boils, steam ten minutes. Then take out one jar at a time, screw lid on air-tight, and replace in boiler. When all have been replaced, steam eighteen minutes longer, being careful to have the water completely cover the bottles this time. At the end of that remove the jars, allow them to cool, and screw the lids on tighter if possible.—Mr. J. S. McKenney.

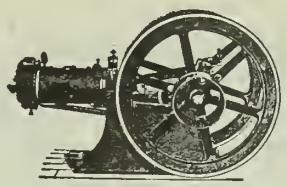
THE fact that the Legislature of Colorado passed a bill permitting prize fights on the payment of $1000 license has been used as a text to prove that woman suffrage did not prevent this evil. There were only three women members of this Legislature, and all of them voted against the bill. Women constitute a minority in the State, but the powerful Woman's Civic Federation in Denver and the Woman's Club of 1200 members have passed resolutions of protest against this new law. They also have petitioned the Governor to include its repeal in the new list of subjects to be considered if a special session of the Legislature is called.

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A NEW DEPARTURE.
LIVINGSTON, CAL., April 15, 1899.
Mr. I. L. Burton.—DEAR SIR: I am satisfied that the windmill and your 3-in. Centrifugal Pump is all right. With a good wind it throws sand and water from 1 ft. to 2½ ft. above pipe. Draws well down 10 ft., making 32 ft. lift. This ought to sell several more for this use. Yours truly, C. F. BLEWETT.
DR. FAULKNER of Salinas writes: "Your 3-in. Centrifugal Pump is the grandest success ever seen."
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FRUIT MARKETING.

Fruit Prices at Various Points.

NAPA, July 14.—F. Borreo sold his entire crop of blackberries this year to one party, delivered at boat, for $50 per ton. He will have from 150 to 200 chests of 100 pounds each. He sold his plums and peaches, same delivery, for $30 per ton.—Register.

MORGAN HILL, July 14. — Messrs. Charles Buchheister, A. B. Holmes and George McMullen have made a conservative estimate of the peach crop within a radius of two miles of Morgan Hill for the *Times*. All are of the opinion that there will not be less than 500 tons produced. They also inform us that buyers have been in the community and were offering $22.50 per ton as a base price for canning fruit.

YUBA CITY, July 14. — The latest sales of cling peaches are those of F. Hauss and J. L. Scheu, and the price reported is $30 per ton or better.—Farmer.

SUISUN, July 17.—Apricots have been bringing 65 cents net for crates of twenty-two pounds, while unpacked apricots have averaged $40 per ton. The pear crop is now being picked and packed. The yield of Barlett pears in Suisun valley is the largest in years, and with the prevailing prices growers are sure to reap a financial as well as a fruitful harvest. R. D. Robbins, who owns more orchard land in Solano county than any other man engaged in the business, has entered into a contract with the Earl Fruit Company, agreeing to deliver 40,000 boxes of Bartlett pears at Suisun. The price he is to receive is not made public, but it is intimated that he will receive $1 per box or within a few cents of that amount. The Alden Anderson Fruit Company has bought up nearly all the pears owned by other growers in the valley at prices ranging from 75 to 90 cents per box.

We are informed that buyers were offering from $1.10 to $1.25 for pears at Vacaville last Saturday, which is an indication that prices will keep up this season.—Republican.

SAN JOSE, July 17.—W. W. Pittman, Ross avenue, has a very satisfactory crop of apricots. Four cots picked off one tree weighed fourteen ounces. He sold the entire crop to the California Canneries Co. at $45 per ton. J. McDaniels, San Francisco road, has sold his Salway and Crawford peaches to Mr. Block of Santa Clara, for $24 per ton for Eastern shipping.—Mercury.

Our Fruit in London.

LONDON, July 13.—There is general comment in commercial circles here at the remarkable speed with which the first consignment this season of California fruit was discharged from the American line steamer St. Louis, which arrived at Southampton Wednesday evening and was brought to Covent Garden market here. All the fruit was in fine condition except the peaches, and sold before noon. The prices realized were considered fairly good. The pears sold for from 6 shillings to 7 shillings 6 pence per half box; the plums fetched 5 shillings to 8 shillings 6 pence per package, and the peaches, which were in bad condition, only realized 3 shillings per package.

Action on Crocker's Proposition.

CLOVERDALE, July 15.—Representatives from the largest wine-making section in the State gathered in an enthusiastic meeting to-day and considered the proposition of H. J. Crocker, relative to selling grapes on a seven-year contract at the rate of $14 per ton. The meeting was called to order by William Caldwell, president of the Cloverdale Wine Company, who expressed his earnest approval of the proposition. He was followed by many prominent speakers and finally the entire assemblage, some 250 grape growers and wine makers, gave their favorable endorsement.

SANTA ROSA, July 15.—At an open-air farmers' institute held in Woolsey's at Mount Olivet to-day the following resolution was adopted:

Resolved, That it is the sense of this institute that the proposition of Henry J. Crocker to purchase the wine grapes of this State for the period of seven years at $14 per ton should be accepted by the grape growers.

Over 300 farmers and vineyardists were present at the meeting.

The Canners' Combine.

The California Fruit Canners' Association is now formally and legally organized. This was accomplished recently, when the last option was taken up and the following officers elected: William Thomas, president; Sydney M. Smith, first vice-president and treasurer; Sanford L. Goldstein, second vice-president; Robert I. Bentley, third vice-president; Isaac H. Moore, secretary; M. J. Fontana, general superintendent. Sidney M. Smith, S. L. Goldstein, M. J. Fontana, R. I. Bentley and James Nelson comprise the executive committee.

The following have agreed to all the terms, and are parts of the big business which will control most of the canning business of the State: Fontana & Co., Cutting Fruit Packing Co., San Jose Fruit Packing Co., Sacramento Packing Co., Santa Clara Packing Co., King-Morse Co., Rose City Packing Co., Oakland Preserving Co., California Fruit Preserving Co., Marysville Packing Co., A. F. Tenny Co. and the Courtland Packing Co., which handles asparagus and peas. This includes twenty-two plants.

Against Citrus Tariff Reductions.

LOS ANGELES, July 13.—The Chamber of Commerce here has adopted a set of resolutions, which will be forwarded to President McKinley, protesting vigorously against the proposed 20% reduction in tariff rates on citrus fruits from Jamaica, West Indies. The reduction, the resolutions set forth, would be of irreparable injury to California and would be the entering wedge for other countries to secure similar reductions, which would work injury to many industries in the United States.

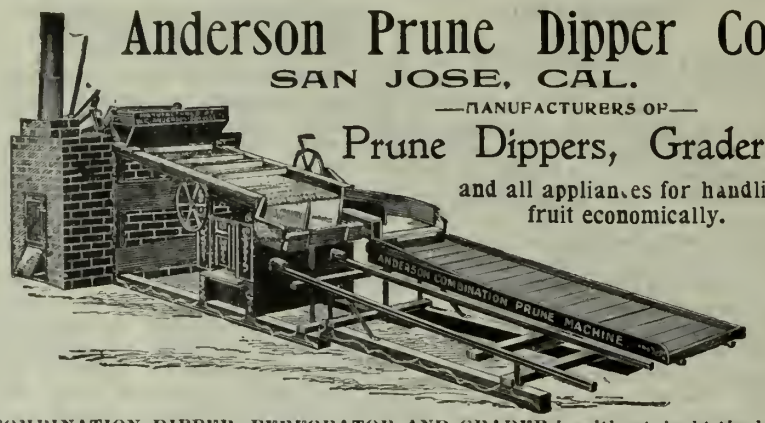
A similar resolution was passed by the Southwestern Commercial Congress, which closed its first session yesterday.

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Our COMBINATION DIPPER, PERFORATOR AND GRADER is without doubt the best machine on the market, as it does the work perfectly.

SAN JOSE, CAL., May 9, 1898.
I hereby certify that during the season of 1897 I received, in my capacity as manager of the Santa Clara County Fruit Exchange, quite a large number of lots of Prunes that were dried after the process of the Anderson Combination Dipper, Pricker and Grader, and am able to say that every lot gave entire satisfaction, being perfectly cured, of uniform color, and retaining all the natural gloss and brilliant appearance belonging to the fruit in its best state. PHILO HERSEY.
President and Manager Santa Clara County Fruit Exchange.

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Hog Raising in the South.

The Secretary of Agriculture is greatly interested in Southern agriculture and methods for its improvement. He has made several trips to the South, and a number of bulletins relating to the various branches of agriculture adapted to that section have been issued by the U. S. Department of Agriculture.

The latest bulletin relating to Southern agriculture is Farmers' Bulletin No. 100, entitled "Hog Raising in the South." It was prepared by S. M. Tracy, M. S., formerly director of the Mississippi Agricultural Station, and will soon be issued.

Conditions—climate, pastures and grain feeds—are so different in the South from those in the older hog-raising sections of the country that this bulletin has been prepared to describe some of the more economical methods peculiar to this region, as well as to give some general principles of breeding and management for those who have had but little experience in the work.

The bulletin contains much information in regard to the care, feeding and breeding of hogs, and says the Southern States can produce corn almost, if not quite, as cheaply as the most favored regions of Illinois or Missouri, while the much greater variety of food crops, the more nearly continuous grazing and the consequent greater immunity from disease give special advantages for profitable pork raising which do not exist elsewhere. With such a favorable climate, and with feed crops which can be produced at so little cost, hog raising can be made profitable on every farm in the South. This bulletin is for free distribution, application to be made to the Secretary of Agriculture, Washington, D. C.

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For the Paris Exposition.

The California Paris Exposition Commission has gone to work in earnest to prepare the display of the State at the great Paris Exposition of 1900. It is announced that half the space allotted to the whole United States for a horticultural display has been given to California, and over two-thirds of the viticultural space has also been assigned to this State. This certainly constitutes a great opportunity to bring California into the eyes of the world, and it should be used to the utmost.

The collection and installation of the exhibit of beverages from the United States at Paris is a part of the agricultural exhibit of the country, which by law is to be prepared by the Secretary of Agriculture. Commissioner General Peck and the Secretary of Agriculture have designated Mr. C. R. Dodge as director of agriculture, and Dr. H. W. Wiley, chief chemist of the United States Department of Agriculture, has been appointed exert in charge of ths collection of the exhibit.

Dr. Wiley has arranged for the collection of the California exhibit by the California Paris Exposition Commission of 1900, and this Commission has appointed W. H. McNeil to represent



M. H. McNEIL.

Dr. Wiley in this collection and preparation of California wines and brandies. Mr. McNeil has long experience in this line of work. He was for years with the California Viticultural Commission and had charge of the viticultural exhibit at the World's Fair of 1893. His acquaintance with exhibitions and with the California producers will enable him to render effective service in the line now entrusted to him. Mr. McNeil has just issued a special circular to viticulturists which will be sent to all who address him at the headquarters of the Commission, Occidental Hotel, San Francisco.

Another member of the Commission's staff of experts is L. A. Emlay, who



L. A. EMLAY.

will collect the exhibit in the lines of horticulture and agriculture. Mr. Emlay also has had wide experience in the exposition line. In 1893 he was selected as first assistant to Mr. Wells, then superintendent of the agricultural and horticultural departments of the World's Fair at Chicago. When Mr. Wells resigned, Mr. Emlay was placed in charge of that department in both the National and State buildings, and performed his duties most creditably.

Patrons of Husbandry.

San Jose Grange.

San Jose Grange met in regular session at Hale's Hall on Saturday, July 15th. In the absence of Worthy Master Leigh, Past Master Dunn presided. Mrs. G. W. Worthen acted as secretary.

Much of the session was devoted to the discussion of the subject, "Humane Education." Prof. Rattan, Mrs. Woodhams, G. W. Worthen, Moore Briggs and Judge Hurlburt were among the number who gave some interesting thoughts on this most essential subject. All the expressions were in favor of a more extended education on the subject, and in some manner of placing it before the rising generation to the end that they may be educated in its principles.

Several new candidates have recently been voted in as members of the Grange, but have not been initiated into the mysteries of the Order. Next Saturday was the day set for the initiation of candidates. On the following Saturday there will be a feast of welcome to the new members. The Los Gatos Grange has been invited to be present on the occasion and a pleasant time is being arranged for.

As soon as the busy summer season is over there will be renewed efforts put forth by the Grange of this county to push the interests of the organization. The need of such an organization is more than ever apparent. Never was co-operation among the agricultural classes more essential than to-day. In the new age that is dawning the Grange has a great work of education before it. Those who see its need and its usefulness, and are without its influence, should hasten to connect themselves with it as soon as possible.—Mercury.

A Primer of Forestry.

The U. S. Department of Agriculture has in press and will soon issue Bulletin No. 24 Division of Forestry. This bulletin is the first part of a paper entitled "A Primer of Forestry," and was prepared by Gifford Pinchot, Forester of the department. It deals with the units which compose the forest, with its character as an organic whole, and with its enemies. It is divided into four chapters.

The first chapter treats of the life of the tree. It describes its three parts—the root, trunk and crown—its food, composition of wood, breathing, transpiration, growth, structure of wood, annual rings, and heartwood and sapwood. The second chapter is devoted to a discussion of the various requirements of trees—heat, moisture and light—their rate of growth and reproductive power, pure and mixed forests and reproduction by sprouts.

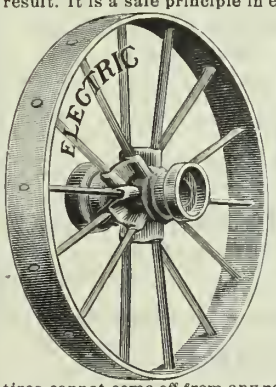
The third chapter gives the life history of a forest, showing the help and harm which the trees receive from one another. This history embraces the life of a community of trees, the life of a forest crop, the seven ages of a tree, the beginning of a forest crop, the forest cover established, the beginning of the struggle, growth in height, the struggle continued, natural pruning, the culmination of growth, the end of the struggle, and death from weakness and decay.

The last chapter deals with the enemies of the forest, of which fires and reckless lumbering are classed as the worst. In the United States wind and sheep grazing come next. Cattle and horses do much less damage than sheep and snow break is less costly than windfall. Landslides, floods, insects and fungi are sometimes very harmful. In certain sections numbers of trees are killed by lightning, which has also been known to set woods on fire, and the forest is attacked in many other ways. The bulletin is illustrated with forty-seven plates and eighty-three text figures.

READERS of the PACIFIC RURAL PRESS, who may be in the South next month, will do well to attend the twenty-third annual session of the Georgia State Horticultural Society, Wednesday and Thursday, Aug. 2nd and 3rd, 1899. The well known horticulturist, P. J. Berckmans, of Augusta, Georgia, is president.

Dry Weather and Wagon Wheels.

This is the season when farmers and others begin to experience the difficulty and annoyance of having their wagon wheels dry out, shed their tires and become shakey and creaky. This condition means one of several things. Either the wheels will have to submit to repeated soakings in water—which but helps on the general tendency to decay—or the tires will have to be cut and reset or reset in boiled oil or a new set of wheels will have to be purchased. Every one of these exigencies means expense and no permanent good is the result. It is a safe principle in economy to always shut out or cut off if possible, the expensive element of repair.



If a practically indestructible wheel were bought in the first place, repairs with their attendant expense would be out of consideration entirely. Then, too, there would not be that waste incident to hauling half a load because the wheels were weak and would not stand more. Surely the remedy lies in buying wheels so made that the tires cannot come off from any possible shrinkage; so that hubs, spokes and felloes cannot shrink, become loose and rot; wheels that are strong enough at all times to carry any load two horses can draw with comfort, and finally, wheels with broad tires that afford perfect traction and ease of locomotion without rutting or cutting up the farm or roads.

Such wheels can be had at a mere nominal price from the Electric Wheel Co. of Quincy, Ill. They make a solid metal wheel with straight or stagger oval steel spokes that will fit any wagon ever made. These wheels are of various heights for various purposes; have tires from 2 to 8 inches wide and possess many other advantages. These people also make a low down handy wagon of superior merit and very reasonable price. Write them for catalogue, prices, etc.

Fruit Grading.

The California fruit grader, manufactured by the Pacific Mercantile Co., is claimed to be a rapid and perfectly accurate grader. It will grade all kinds of green fruit, such as apples, pears, peaches, apricots, plums, etc.; will also grade potatoes, onions and nuts. The orange grader being specially arranged for oranges and lemons, both grade absolutely correct as to size. The machines are adjustable to any size and have a capacity of from 5 to 50 tons per day. It has graded 50 tons of apricots in a day, and one party, speaking of it, states: "That his machine saved the cost of it to him in one season by so grading his fruit that he was enabled to properly place his fruit on the trays, and thus save fruit and time in drying."

It is so arranged that it can be operated by either hand or foot power, or by both.

Fruit shippers will make money by grading their fruit, and driers and canners will find the grader a great help to them, owing to the rapidity and accuracy of the work of these graders. The California grader is not a new machine; it has been sold for some years with great success, and the many testimonials on file speak highly of its merits. Fruit growers and shippers will find these machines invaluable. A cut of the grader may be seen in another column.

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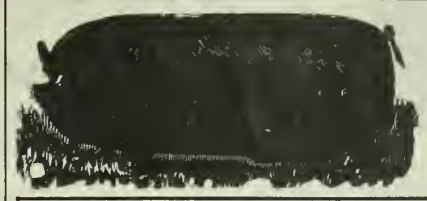
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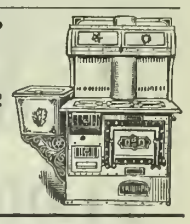


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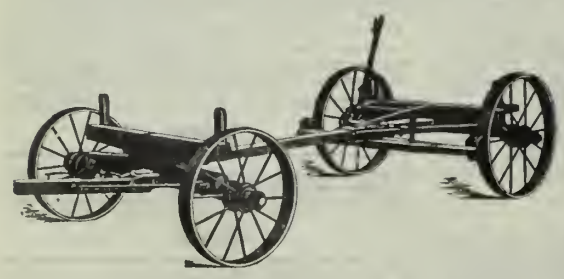
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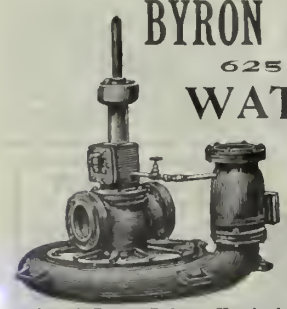
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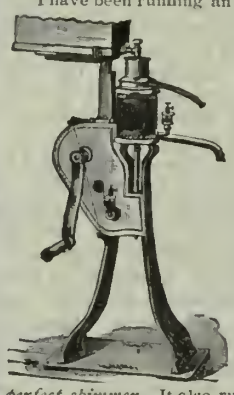
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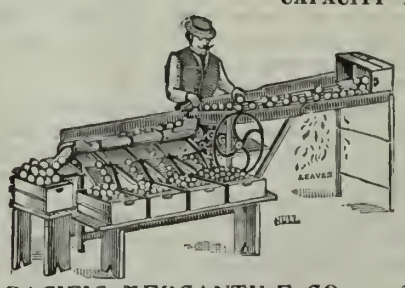
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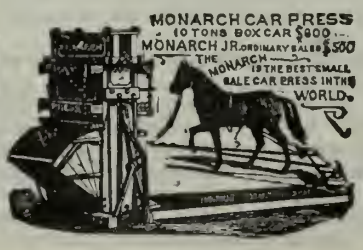
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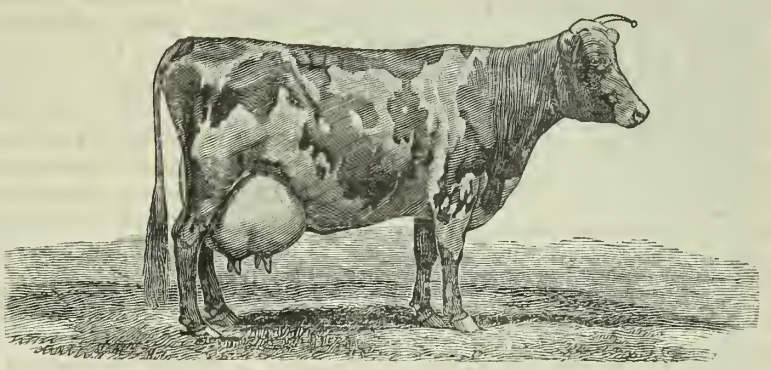
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THE PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 5. SAN FRANCISCO, SATURDAY, JULY 29, 1899. TWENTY-NINTH YEAR.
Office. 330 Market Street.

Ayrshire Cattle.

Though there have been herds of Ayrshire cattle in California for many years the breed has never become widely known in this State, and few of our readers are aware of the progress which has been made in the improvement of the animals on the American plan. We say on the American plan for it is a conspicuous fact that American breeders have modified nearly all breeds with which they have had to do and developed them according to their own ideals of practical value, so that an American-bred animal shows characters unlike those of its ancestry and characters which are clearly superior from the standpoint of adaptation to practical use. The Ayrshires have been advanced in value in this way until there is quite a contrast between the American and the old Scotch types. In the year book of the Ayrshire breeders for 1899 it is claimed that the United States is the only place where the leading Ayrshire breeders give prominence to utility as a dairy cow. In Scotland, in Canada, and to some extent in the States, the decision at our leading fairs is more for a typical show cow than for any dairy quality the Ayrshire may have. It is said that in Scotland the prize goes to the cow that has the most queenly way of walking and holds her head the highest, all of which is very well if you can have the milk and the butter to go with it, but non-essential points have injured many a good breed in encouraging the selection and building up of those characteristics in a dairy breed which are antagonistic to dairy excellence.



DUCHESS OF SMITHFIELD 4256.



AYRSHIRE COW GIPSY OF BROOKSIDE 11265.

The engravings on this page may give some indication of the development of higher dairy form, by contrasting the picture of the Scotch lassie and her cow with the other animals, which represent the American type. Mr. C. M. Winslow of Brandon, Vermont, who is a leading breeder and secretary of the Ayrshire Association, holds that there is a greater similarity between the Scotch and Canadian Ayrshires than between the Ayrshires of the States and either the Canadian or Scotch, due in a great measure to the more frequent importations into Canada and to the difference in the milkers. In Scotland and Canada the milkers are mostly women, and their method of milking is to use the thumb and forefinger, and to milk by stripping, while in the States men do the milking and prefer a cow with large, long teats that they can grasp. This has led the breeders of Ayrshires in the States to reject the cow with short teats and breed from the cow with long teats. Also the Scotch and Canadian breeders have appeared to place more importance in the exterior form of the Ayrshire, while dairymen from the States have cared more for dairy quality and less for the fashionable type, so that to-day there is a marked difference between the majority of the Ayrshires as seen in the States and in Canada or Scotland, the cows from the States being, as a rule, larger and more angular, larger udders, not so square and symmetrical, longer and larger teats, larger milk veins and milk holes, thinner hides and larger milkers, the Scotch and Canadian bred Ayrshires, on the other hand, being more blocky, straighter on the back, thicker hided, shorter teats, smaller milk veins and holes, and yet the scale of points of all is the same for a perfect cow, the difference in the animals being due to environment and taste. But where the breeder has been guided by the scale of points in the selection of his breeding animals, and has tried to combine utility with the perfect type, there is not so much difference between the animals of the States, Scotland and Canada.

The cows illustrated herewith may stand as exponents of the best American Ayrshire type. The Duchess of Smithfield has a record of 10,748 pounds of milk in a year and 19.6 pounds of butter in seven days. We have not the record of the cow Gipsy of Brookside, but she evidently has the form for high deeds at the pail.

A Chance to Show California Irrigation.

Elwood Mead, who has charge of the irrigation work of the Department of Agriculture, is preparing an exhibit of the progress of irrigation in this country for the Paris Exposition. It is clear that the development of this art bears unmistakable indications of the American ways of doing things, and the results thus far accomplished will illustrate one of the phases of American industrial thought and spirit. Nothing would introduce us so favorably to the attention of our brethren from other semi-arid countries as to show them what we are doing in the highly humane work of desert-blooming.

Naturally Mr. Mead must depend for the materials of his display upon those parts of the United States where irrigation has attained highest development, and California by virtue of long time and good work has attained this distinction. From California there must come a good part of the illustrative material for the exhibit. Mr. Mead will be glad to have the co-operation of all local irrigation engineers in the loan of models or drawings of irrigation designs, devices or constructions which he can use for the Paris display and will be glad to receive correspondence on this subject addressed to him at Cheyenne, Wyoming.

The Pacific Rural Press has undertaken to assist Mr. Mead in the way of collecting photographs showing irrigation reservoirs, flumes, pipe lines, canals and ditches, headgates, weirs, etc., flowing wells, pumps and pumping plants, tools and methods of grading and excavation, distribution of water to crops, etc. It is impossible to specify all the things wanted, but it may be said in a general way that all good photographs showing any phase of irrigation work and any creditable product of irrigation can be so placed as to constitute a part of a general pictorial exhibition of irrigation which will catch the eye of the world. We earnestly appeal to readers to help the cause by donations of such photographs and to call the attention of friends who have such things to this request. There ought to be a response to this appeal, which will enable Mr. Mead to prepare a California irrigation portfolio which will surpass anything of its kind at the Paris Exposition. We shall be glad to receive such photographs at any time in the next few weeks, but the sooner the better.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, July 29, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Harvest activities in all lines are at their height and no one has any difficulty in keeping out of mischief if he is so disposed. There are in many places fewer workers than places and wages are rising; it is announced that the Marysville cannery advanced its rates 30% on its own account to keep its help contented and to get more. This is surely an indication of industrial activity and confidence if any were needed. Fruit growers are coming together at various points to promote fruit sales at living prices and buyers are plenty. So far as we have noticed all meetings in the grape districts have favored the Crocker proposition for buying grapes and if the old difficulty of ever getting large numbers to agree to anything can be overcome, the scheme will go through. Local meetings in other fruit interests are also being held, and the labor supply is up for discussion in nearly all places. The hop harvest will soon open, and that will require more help. Surely, if high wages and busy laborers are an index of prosperity, we are there now.

Wheat is about the same for spot and short time—remote futures are perhaps a shade weaker. Barley is lower; oats steady. Of millfeeds barley is the only drooping article; wheat bran is rather firm. Meats are unchanged except that veal and lamb are scarce and higher. Poultry has passed the turn and is very weak; eggs steady and unchanged. Eastern eggs are arriving and more coming. Beans are firm at old figures, except that pink beans are rising in response to a speculative demand. Potatoes have improved again and are in good tone; onions have risen a little. Dried fruits are high; apricots and peaches are in light receipt and the market is against the buyer. Old prunes are moving better, which improves the outlook for new. Hides and pelts are higher. In short, most things show rising disposition—and this is another indication of prosperous times.

The forestry convention in Los Angeles last week was very successful in commanding public attention and in bringing forward matters of wide public interest. We expect to present these topics as opportunity offers.

Climatology and Horticulture.

At the recent convention of representatives of the agricultural colleges and experiment stations the writer was invited to speak upon the relations of climatology to horticulture. It was a very unsatisfactory undertaking because there are so few accurate data available, from American sources at least.

Climatology has been studied in its relation to hygiene, and the knowledge gained enables physicians to make definite prescriptions of sunlight temperature, atmospheric humidity, etc., for the promotion of health. Climatology has been studied by the botanists as a factor in the natural distribution of plants, and here, too, definite and satisfactory results have been attained. Climatology, however, as related to agriculture and horticulture, constitutes a field of research of great import and interest, especially in the relation of obscure or less obvious climatic conditions to plant growth and development along industrial lines of culture. This field has hardly been located yet; it certainly has not been definitely described.

Perhaps all of the factors which determine climatology are capable of some horticultural measure and estimation which have not yet been made. Certainly the chief factors have only been studied in outline. Who knows the precise horticultural value of temperature, moisture, light, wind power? We all know when our plants are frozen or burned, drowned or dessicated, broken to pieces or blown away, and horticultural practice has formulæ and safeguards to prevent or escape these disasters, but what has been done of late to perfect the pioneer work of Gasparin, Humboldt and Boussingault? It is true that later European writers on the grape and other fruits have undertaken to determine the limitations of varieties according to meteorological extremes and have made other closer uses of meteorological records in the definition of local relations of conditions to character and quality, but there is still much to be ascertained and American investigators have done little in any branch of the subject.

It is also true, as intimated, that the botanists have been developing the subject well along their own lines and they have an extensive literature describing their researches and experiments in plant physiology and chemistry. Much of the work disclosing the influences of climatic conditions upon the modification of form and inflorescence and in the development of color and fragrance will yield valuable analogies and be very suggestive experimentally, but have horticulturists done anything to borrow light from the botanists or to strike light for themselves?

We do not appear to get much comfort or encouragement from the meteorological side, for in the Monthly Weather Review for February, 1899, is the following:

It is commonly said that the climate is the average weather of a century or some long period of time; that the climate represents normal or average conditions, while the weather is the temporary condition prevailing at any moment. Statistics have been compiled to show some of the relations between the average crops and the average climate. The present editor has undertaken extensive work in this line, but summed it all up by saying that for crops raised out of doors the relation is too complex to present any results of positive value to either the farmer or the biologist. The fact is that the innumerable combinations between the varying conditions of weather, soil and plant will, at any stage of growth, affect the plant and crop to an important extent. It is the weather and not the climate that is of importance to the farmer. The weather is everything; the climate is an abstract idea that has very little interest for him.

The success in raising profitable crops in any part of the country must depend upon the frequency with which injurious weather conditions recur. A favorable locality is not one whose average climate is favorable, but one in which the extreme severities of the weather do not recur too often.

This is unquestionably true. The old idea of average temperatures as indications of adaptation to cultures was a delusion and a snare, but the declaration of the Weather Bureau seems to intimate that its experts wish to affirm the conception of the relations of climate to horticulture, previously cited, that it is only when heat waves and light waves and wind waves rise to the pitch of calamity that the horticulturist has any concern with them; that it is only when the deadly extreme intrudes that the grower of fruits or esculents or flowers has anything to do with the aerial half of his environment.

There is something far more interesting and satisfying to be learned of the intimate relations of climatic factors to our plants in growth and fruiting than this view would concede. In a semi-tropical climate at least, and in dealing with plants of low polar limits, the horticultural character of a place depends upon an extreme low temperature which is perhaps but a very slight departure from the normal, but is enough to work sad havoc, as it comes in the growing season of the plant affected. Perhaps on this ground the advice that we need studies of weather, rather than of climate, might be admitted, and certainly the Weather Bureau is doing very valuable service to California in its warnings and admonitions to various groups of producers, but there are other less obvious factors entering into the horticultural fitness of a place which are not extremes but are its normal characters, which we are told is what is meant by the term climate. European observers have, as stated, determined with more or less accuracy the needs of certain plants for vegetation and for other advanced acts—blooming, fruiting, etc. They have suggested the requirements of heat, light and atmospheric humidity; but their conclusions have not been systematically tested in this country, nor have our own peculiar conditions been definitely demonstrated and their influences determined. In this direction physics, chemistry and meteorology involved in climatology should be invoked by those competent to appreciate the horticultural import of such investigations and to regard the results from a horticultural point of view.

These matters seem perhaps of special interest to California because it is not the calamity phase of the weather which is everything to us. We have quite enough of that, but it comes in such degrees that there is promise of success in fending it successfully. It is other matters not associated with freezing or burning or blowing away which are determining the success or failure of fruits in different locations. They are many; only a few can be cited here:

What are the exact climatic features which determine the presence and degree of destructiveness of insects and plant diseases in various localities?

Upon what local conditions depends the development of color in some fruits to such an extent that varieties are chosen or rejected upon this basis?

Upon what local conditions do flavors depend to such a degree that the same variety may be flat in one region and delicious in another, while the tree exhibits similar thrift and productiveness in both situations?

What are the exact relations of heat and atmospheric humidity to open-air evaporation of drying fruits and to the market character of the product?

What are the meteorological features of the growing season in humid and arid districts, and are they modified by irrigation in either case?

There are many other questions which are continually arising in horticultural practice, and some perhaps are of greater moment than the foregoing. The fact that such things actually shape or limit horticultural practice and investment would seem to indicate that, inasmuch as they cannot all be classed as weather phenomena, they must be involved in climatology and thus constitute the climate something more than an abstract idea to the horticulturist.

But can these obscure matters be given horticultural measurement? Prof. Milton Whitney of the U. S. Dept. of Agriculture gives some hope of arriving at formulæ upon which to have expectation of results. In *Science* for January 28, 1898, he has a letter on climatology as distinguished from meteorology, maintaining not only that the two are distinct but that "climatology is the relation between meteorological elements as measured by the development of the plant." That gives some hope and encouragement; now what we need is some suggestion of systematic experimentation to determine factors in that relation and their functions, so that knowing what agency, or what measures of that agency, accomplish certain results, we can better understand the causes of phenomena which it is very desirable to produce or to avoid as the case may be.

QUERIES AND REPLIES.

Powdery Mildew in the Nursery.

To the Editor:—I am sending you by mail under separate cover to-day a section cut from the top of a small tree in a nursery near Watsonville. The tree, as you will readily perceive, is affected with some pest. It is first noticed that the top leaves become affected and then the trouble gradually creeps downward until it reaches the root, when the tree withers up and dies. We have not noticed this in trees of larger growth, it being almost entirely confined to the young trees in the nurseries. The farmers and nurserymen state that they have never seen anything like it before, but this may only be a different form of some trouble noticed heretofore. At any rate, several farmers and nurserymen are desirous of learning just what it is that affects the trees in this way, and of finding the remedy, if there be any. If you will examine the sample and let us know your opinions in reference to the matter you will oblige several interested enquirers.—Nurseryman, Santa Cruz County.

Your trouble is powdery mildew of the apple, about which we have heard more complaint during the last two years than during the whole of our earlier California experience. The aggressor is a fungus of the same group as the mildew of the grapevine and of the rose. It is not of the class which is subdued by Bordeaux mixture, but is successfully treated with sulphur. Spray with water or take a time when the foliage is damp with dew, and blow fine sulphur upon it with a bellows, as is done with grapevines. This treatment should be undertaken early—just as soon as the first sign of the disease is seen, or, if you are likely to have it, apply some sulphur in advance as a preventive, just as the grape growers do. Even plants as badly affected as the sample sent can be rescued, and they will make some later growth if sulphur is used even as late as this. A spray of sulphide of soda or potash is also effective against this disease, but ordinarily, on low growths like nursery stock, the dry sulphur treatment is handiest and very effective.

Lupins or Burr Clover.

To the Editor:—I have read with much interest your article in the July 8th number of the Pacific Rural Press regarding European lupins in California. Can the seed be purchased? If so, where and at what price, and do you consider the lupins as valuable a nitrogen gatherer and humus producer as the little California burr clover?—Homer A. Craig, San Francisco.

The European lupins are still on trial, with their exact standing as green-manure plants still to be determined. The University bulletin was prepared to excite interest and to enlist the co-operation of individual experimenters so that much testimony could be secured in the shortest time. It is too soon to say that they are better than burr clover. We should grow as much burr clover as possible and keep plowing it in, and at the same time try a patch of lupins to see what their winter growth will be. The seed has to be imported from Europe and the University has placed an order to secure seed which can be distributed in small amounts for wide trial.

Peach and Apricot on Prune.

To the Editor:—Can the peach and the apricot be easily and successfully grafted upon old prune trees?—G. W. Barnhart, Lawrence.

Plum stock has been practically abandoned for the peach; the apricot will do better, but we do not like that, either. Why not put in some of the newer prunes or plums?

Flax for the Sacramento Valley.

To the Editor:—A question has arisen here of considerable importance to myself and this locality in regard to the cultivation of flax. What are the necessary conditions for the successful production of flax? Can it be successfully grown here—in the locality of Red Bluff and similar climates and soil, and with the limited amount of moisture we have here? Again I have noticed a plant growing on poor sandy soil, which I have taken to be a native flax. As far as I can tell, it is the same as the flax commonly raised in the East—the flax of commerce—except that it seems to be either a biennial, triennial or a perennial plant instead of an annual. Are you familiar with such a plant and with its nature and its commercial value? Will its seeds produce oil the same and of the same value as the flax usually raised in the East?—Reader, Red Bluff, Cal.

Natural conditions in the Sacramento valley are suitable for the growth of flax, and in some parts of the valley considerable flax has been grown. Where moisture is likely to be scant early in the summer it is desirable to sow the flax early so that the chief growth of the plant can be made during the latter part of the winter while moisture still suffices. Flax is hardy for ordinary valley frosts and will probably stand any temperature that your growing wheat will. By sowing flax then in February you will get so much growth before the moisture goes from the ground after the spring showers cease that the seed will mature all right in the dry season and make a good crop where late-sown flax might fail to fill its heads well. There is no trouble about growing any quantity of flax in California. If there is any trouble at all about it, it is in making it pay at the low prices which have prevailed during recent years.

Sunburned Grapes.

To the Editor:—Please tell me through the columns of the Pacific Rural Press what is the matter with the grapes and vines of which I send you a sample? A few die yearly with apparently the same trouble. Some do not start at all in the spring, while others start but make a very stunted, sickly growth, and I suspect they are the ones that looked last year like the one of which I send you the sample looks year. Would like to know if there is any remedy?—W. E. Phillips, Long Beach, Los Angeles Co.

Examination of the grapes does not disclose the presence of any specific disease. The injury to the berries seems to be occasioned by sunburn. The opportunity for sunburn seems to be somewhat scant foliage, and why the foliage is rather scant and the leaves so small on so strong a cane as the one sent does not clearly appear. There is nothing, however, to indicate that a vine which can make a long cane thick as a finger will die next year. The cane and foliage are of healthy color, also, and do not show evidence of any disease. So far as we can see the trouble from the specimens sent, it might be avoided by a system of training which would collect more foliage over the center of the vine, such as intertwining or tying the canes together over the fruit clusters. If this comment does not seem to you to meet the case, or if there are other indications of trouble which these specimens do not show, write the Government pathological expert, Prof. Newton B. Pierce of Santa Ana, to visit your place. He is close to you and has given years of attention to such subjects.

Yield of Fruit Trees.

To the Editor:—Will you kindly let me know what might be considered a fair yield for an average season from six-year-old prune, peach or apricot trees.—H. H. Carlton, Mill Valley.

We dislike to attempt such answers because the answer depends upon the way the trees have been brought up, which we cannot know, and the part of the State where the trees are growing. All we can say is that if such a tree yields 150 pounds of good sized fruit we would be satisfied.

"California Fruits"—Third Edition.

The printing of the third edition of Wickson's "California Fruits and How to Grow Them" is proceeding as rapidly as possible. The work is being completely reset in type, as the changes the author deemed necessary in order to bring the work up to date were so sweeping that the revision approaches very closely to a rewriting. In a few weeks more the work will be ready for distribution, and the large number of orders on file from semi-tropical countries everywhere show that the dissemination of the work around the world will be very rapid. The sale of "California Fruits" and the warmth of commendation which it has received are almost phenomenal. It has proved beyond question the most popular and widely distributed industrial book ever published in California, and it is evidently just at the beginning of its usefulness, both at home and abroad.

As in earlier editions, so in the third; a few pages will be given to business announcements. It is especially desired that these pages shall be used by dealers in fruit growers' supplies, so that this part of the book shall be of use to readers as an index to parties to whom application can be made for seeds, nursery trees, and tools and appliances of all kinds which are used in our fruit industry. Readers are pleased not only with information about our horticultural practice in California, but also with knowledge where they can get California fruit trees and California appliances for fruit culture, curing, packing, etc., and all who wish to extend their sale of these things, both at home and abroad, will find their interests well served by this exceptionally creditable medium. Correspondence is invited along this line.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 24, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has been nearly normal and there has been no rain except occasional showers in the mountains of southern California. Very high temperatures prevailed on the afternoons of Monday, Tuesday and Wednesday, in some localities reaching 110°. No injury resulted from these high temperatures, which is rather unusual. Fruit has ripened rapidly; early peaches, plums, pears, figs, apricots and nectarines are coming into market. Grapes are in excellent condition, and there is every prospect of a very large crop. Threshing wheat is general, and barley is turning out better than expected. Sugar beets do not seem to be doing as well as might be expected. Corn, potatoes and vegetables are in good condition in most sections. There are some reports of scarcity of water in artesian wells in southern California. Packing houses and canneries are working to their full capacity. There has been some delay in handling crops through lack of labor.

Coast and Bay Sections.

Excellent weather for all fruits. Apricots nearly all gathered; peaches, prunes and pears ripening rapidly and picking beginning. Apples will be small in size. Canneries busy working apricots, early peaches and berries. Harvesting progressing rapidly. In many sections hauling has commenced, but not very heavy as yet. Grain has turned out very well. Berries and potatoes moving freely. The beet crop will be light.

Sacramento Valley.

Owing to the very high temperatures on Monday, Tuesday and Wednesday all fruit has been benefited. The hot spell did no damage, which is rather unusual. There is every prospect of a generous yield of all deciduous fruits. Tree fruit is ripening rapidly while an immense crop of grapes is expected. Some picking of peaches and plums. Heavy shipments of Bartlett pears reported near Sacramento. Orange prospects about same as last year; more Seedlings and less Navels. Olives looking well and trees will be loaded. Threshing continues and the yield equals expectations. Grain is being harvested rapidly, and in both quality and yield is satisfactory. Hop vines continue thrifty and give good promise. Corn on river bottoms in excellent condition. Tomato vines in some fields show a blight. The Feather river at Thermalito is quite low.

San Joaquin Valley.

Fruit ripened very rapidly during the warm days at the beginning of the week. The end of the week was cooler. Canning and drying are going on in nearly all sections. Vineyards are in good condition and the grape crop will be very large. The prune crop will be heavy. Pears are not all that might be expected. Melon output heavy—estimated in the vicinity of Fresno at 350 carloads. Peaches and nectarines are ripening fast. In general, a very bountiful yield of fruits. Harvesting continues under favorable conditions, except for high afternoon temperatures. Barley is turning out better than expected. There have been some fires in the grain fields and some loss. A large crop of bay has been baled. All minor crops—potatoes, corn and sweet potatoes—are but fair.

Southern California.

The weather was generally warmer, and favorable for ripening all fruits. In the mountains there were occasional light showers. Deciduous fruit has been going in large quantities to the dryers and canneries. Canneries are working up to full capacity. Berries continue excellent. Apples are small, on account of dry season, it is said. Peaches, prunes and pears will make a good crop. Plenty of hay, alfalfa and grain. Potatoes are in good condition. Corn doing well. Beets are not doing well. Tomato crop just beginning to come in, and will be fairly good. Walnuts and potatoes are doing very well. Artesian wells show evidence of dry weather, the flow decreasing, and in some sections pumping is necessary.

Los Angeles Summary.—The weather was generally moderately warm during the week, though some sections report quite hot, sultry weather the earlier portion. There were occasional morning fogs both in the coast section and in the interior; showers occurred in the mountain districts, with thunder storms in the mountains near the Mexican border; drizzling rain fell Saturday on northern San Diego county coast. The weather was favorable for crops, which are doing well for a dry season; fogs were beneficial to beans; in some instances farmers are irrigating their beans. Threshing continues and the yield is better than expected. Apricot drying is about finished, except on late varieties; peaches are ripening fast; drying will begin soon; early varieties are in market.—George E. Franklin.

The following data for the week ending 5 A. M. Wednesday, July 26, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.00	.00	T	.08	48	62
Red Bluff	.00	.00	.00	.03	64	108
Sacramento	.00	.00	.00	T	54	100
San Francisco	.00	T	.00	.03	50	72
Fresno	.00	.00	.00	T	62	112
Independence	.01	.01	....	T	66	100
San Luis Obispo	.00	.00	.00	T	48	82
Los Angeles	.00	.00	.07	.03	58	92
San Diego	.00	.00	.00	T	60	78
Yuma	.00	.00	.00	.14	74	106

It is announced that the Supreme Court will soon render a decision holding that, owing to a blunder of the Legislature, the office of Commissioners of Public Works has lapsed. The effect of the decision will be to put a stop to all river improvements under the direction of the commissioner and the auditing board and to render unavailable for the purposes for which it was appropriated an unexpended balance of nearly $180,000 in the fund. Such a decision will be regarded by the farming and horticultural interests along the rivers of the State as but little short of a public calamity.

ENTOMOLOGICAL.

Inspection of Nursery Stock and Orchards.

By ALEXANDER CRAW, State Quarantine Officer, before the Horticultural Section of the American Association of Agricultural Colleges and Experiment Stations

The subject assigned to me is one that you naturally will suppose can be taken up by the Quarantine Officer of the California State Board of Horticulture and presented in such a manner that all the working details can be understood, even by a novice. The character of the work, however, makes it a difficult subject to handle on paper and should have ocular demonstration for instruction.

Historical.—California was the first State to recognize the necessity of formulating laws for the protection of its vast and increasing horticultural interests. A brief reference to the early efforts of fruit growers in securing legislation in this State may be of interest to this assembly, as a number of other States in the Union have adopted or are considering the adoption of similar laws.

On March 14, 1881, an Act to protect and promote the horticultural interests of the State was signed by the Governor and became a law. Section 1 of that Act conferred the power upon the supervisors of any county, when petitioned by five or more persons who were resident freeholders and possessors of an orchard, to appoint a Commission of three members, to be known as a County Board of Horticultural Commissioners, whose duties were to supervise the destruction of insect pests within their county. Under this law the Commissioners could take no action unless upon complaint of some person that certain orchards contained noxious insects that were liable to spread to the trees or fruit of the complainant. After trial this law was found defective, as orchardists did not feel disposed to lodge written complaints against their neighbors. The law was subsequently amended whereby it required the signatures of twenty-five or more persons to the petition for the appointment of a Commission. Section 2 of this law gave the Commissioners the power, whenever they deemed it necessary, to cause an inspection to be made of any orchard or nursery or trees, and if found infested with scale bugs or other injurious insect pests, to cause the disinfection of the trees or fruit within a specified time. If the owner failed or refused to comply with the notice, he was deemed guilty of maintaining a public nuisance and could be proceeded against for such, or the Commissioners could abate the nuisance and the expense would become a lien on the property. The enforcement of a law compelling a man to clean up the pests in his orchard for the protection of his neighbors' trees was resented at first by some, and required considerable educational work to demonstrate to them that it was a good business proposition to get rid of the pests on their own trees.

Insecticides.—A determined warfare was commenced against more serious insect pests in the various fruit growing counties. This consisted of spraying with soap solution prepared from commercial whale oil soap, to home made fish oil and tallow soaps, also kerosene emulsion and other insecticides.

Experiments were conducted by orchardists and others, and frequently some "kill all" was announced. Generally they not only killed the scales but the trees as well. The expense of kerosene emulsion and the difficulty of preparing it was the principal drawback to its more general use.

B. M. Lelong finally issued a formula for making a soap that could be prepared in the orchard, that cost a fraction under 1 cent per gallon when diluted to the proper strength for spraying. This was extensively used. Albert Koebele, through the suggestions and assistance of the Los Angeles Soap Company, experimented with rosin solutions in the Wolfskill orange groves and had most excellent results with it, both as an insecticide, the effect upon the tree and its cheapness. In the winter of 1883–84 Charles Hobler, a sheep owner now living in Kings county, had his flock in Fresno county near the peach orchard of Mr. Scoville. During the operation of dipping the sheep in a solution of lime, sulphur and salt, he suggested to Mr. Scoville to try some of the wash on his peach trees that were seriously infested with and dying from the attacks of the so-called "San Jose scale" (*Aspidiotus perniciosus*). This was done by throwing the solution upon the tree with a dipper. The attention of I. H. Thomas of Visalia and N. W. Motheral of Hanford—both at that time Horticultural Commissioners of Tulare county—was called to the experiment. The result was so encouraging that they made more extensive tests. Besides proving to be the most effective insecticide for this destructive scale on deciduous trees, it is also a good fungicide and prevention of curl leaf on peach and nectarine trees.

From letters and published reports received from the Eastern States, this wash has not been as effective there as it has been with us. This is probably owing to the greater rainfall, for it can hardly be the fault of preparing the solution or in its application.

Fumigation.—My experience in fighting scale insects on citrus trees convinced me that some other method than spraying would have to be devised in order to successfully check such pests, as the most expert and careful sprayers—owing to the dense leafage of such trees—would miss enough scales so that the trees in a short time after would be as seriously infested as before. This was during the time that the "cottony cushion scale" (*Icerya purchasi*) was doing so much damage. This pest was introduced upon some trees from Australia in 1868 and by 1884 had spread into nearly every county, but more especially in the orange and lemon groves of the southern counties.

Mr. J. W. Wolfskill, an extensive orange grower of Los Angeles, and I discussed the possibility of destroying the pests by fumigation. He put up the money for tents and other experimental requisites, and we conducted numerous experiments—a list of which is given in the U. S. Agricultural Report for 1887. We succeeded in killing the scales and their eggs, but it was rather a slow process. This was in 1885. In 1886 D. W. Coquillett was sent by the late Prof. Riley to Los Angeles and called at the Wolfskill groves. I asked him what line of experiments he intended conducting and he replied that it was to thoroughly test the kerosene emulsion on the *Icerya*. As we had gone carefully through this and found that at the cheapest diluted solution required to kill the scale and eggs, it was then too expensive and would bankrupt the growers, as it was necessary to spray two or three times a year, I called Mr. Coquillett's attention to trees that we had fumigated and he was much interested. I understood he wrote to Prof. Riley for permission to make experiments with fumigation, but received no encouragement. Some time after, through a lack of funds, his services were dispensed with. Mr. Wolfskill then suggested that he join us in experiments with fumigation, but he secured a sheet for himself and was granted permission to conduct his tests in the Wolfskill orchards. One of the first experiments he made was with hydrocyanic acid gas. In that test he had an excessive charge of cyanide of potassium and sulphuric acid, and as a result four-fifths of the tops of the trees were killed. On the lower portion of the tree, where the twigs and leaves were not so seriously damaged, the scales and eggs were all dead. When we visited his quarters a few days after the experiment his sheet and other materials had the appearance that he had left in a hurry. The reason for this, I afterwards learned, was that in removing the sheet from the tree he was treating he picked up the bottom of it and endeavored to throw it off. In doing so the gas came in contact with his hands and face. He knew the deadly nature of the gas, so did not inhale it. After that experience he was not disposed to make any further tests in this line. He finally consented to continue with our assistance and the use of Mr. Wolfskill's outfit. In that way the use of hydrocyanic acid gas for fumigating orchard trees and nursery stock was developed. The method of generating the gas is practically the same to-day that was used in the first experiments. Numerous contrivances were invented for generating the gas, but they have all been discarded. Expensive derricks, hoods and tents have been invented and some of them patented; nearly all have given way to the old-time "sheet" and "hoop" or "bell tents."

Inspection and Disinfection.—I will now refer to the inspection and disinfection of nursery stock. In my opinion, if such work had been undertaken and conscientiously attended to twenty-five or thirty years ago, we would now have very little need of orchard inspection or disinfection in California. I think I can confidently assert that all of our troublesome pests in the orchards of this State are introduced species. Early publications on scale insects unfortunately gave such popular names as the "red scale of California" to an Australian insect *Aspidiotus aurantii*; the "black scale of California to *Lecanium oleæ*, introduced on plants from Europe; and "San Jose scale" *Aspidiotus perniciosus*, that I feel satisfied was brought on trees from Chili to San Jose. Such names create the impression that California is their native home. The parasites and enemies of such insects on the trees or plants make their escape and we receive only the destructive species. This has been the experience of other States and countries as well.

Mytilaspis citricola and *Mytilaspis gloverii* were serious pests in Florida. I find both scales upon fruit and trees from the Orient, so I believe they were carried on trees or plants from there to Europe, or possibly direct to Florida. We know that twelve years ago they were brought from Florida to this State on citrus trees.

Parlatoria pergandii was described by Prof. Comstock in 1879 from specimens he collected on orange trees in Florida. In commenting upon it he wrote: "Frequently it may be found on Florida oranges in the Northern markets, but I have never observed it on imported fruit, and as I have not yet found it infecting native plants I can offer no suggestions as to whence it came." At the time that Mr. Comstock described this scale he had not seen *Parlatoria proteus*, and since then *P. pergandii* has been determined to be *P. proteus*. There is no question in my mind as to its original home, for I find it on both trees and fruit from China and Japan. The present experience in the Eastern States with the so-called "San Jose scale" shows the necessity and importance of inspecting all nursery stock entering a State or even a district, also its thorough fumigation with hydrocyanic acid gas.

Methods of Work.—I will now briefly give you an outline of our inspection and the disinfection of nursery stock that arrives in this State from foreign countries. Formerly we worked under the regulations of the State Board of Horticulture—the board having been empowered by the Legislature to make such regulations. Now we have the regulations embodied in a law that was passed this spring. Under Section 1 of this law it is punishable by fine to bring trees, plants, fruit, etc., into the State without notifying the proper authorities. Besides that it is practically impossible to land such stock from foreign steamers or sailing ships, as the United States customs officials kindly co-operate with us and refuse to pass anything in that line unless an officer of the Board of Horticulture is present. The value of such assistance to the horticultural interests can hardly be estimated. All plants in the possession of passengers or crew are carefully inspected upon arrival of the ship. When the freight is unloaded all packages or cases of trees, plants and fruit are segregated. Stock for the interior of the State is opened up and inspected on the dock. It is then fumigated. If there is an inspector in the district he is notified and inspects the roots, when taken out of the moss, to see that they are not attacked by borers. If there is no inspector, or there is any doubt as to his ability to perform such work, the stock is unpacked and treated here at the expense of the owners.

When any stock arrives in San Francisco for Eastern States I write to Dr. D. C. Howard of the Department of Agriculture at Washington and he notifies the proper authorities in each State to have the plants inspected and treated. I frequently notice trees in cases for the East infested with that serious and difficult to destroy scale, *Diaspis amygdali*. When this scale is found on stock for California it means the destruction of the plants or trees, as we never give it any quarters. In the case of the Eastern trees, we cannot stop them, as we operate under a State law, unless the trees and plants are infested with insects of such a character that they would endanger the State in passing through.

When plants or trees are infested with species of insects not already existing in the State, they are destroyed or refused entry.

Apparatus.—In fumigating we use square canvas sheets, 16 to 20 feet in diameter made of the best ducking, double stitched and then painted with boiled linseed oil to make it gas proof. The canvas must be perfectly dry before it is rolled up or it is liable to be destroyed by spontaneous combustion. To fumigate evergreen stock we use one ounce of cyanide of potassium, one fluid ounce of commercial sulphuric acid and two fluid ounces of water to 100 cubic feet of enclosed space. For deciduous and hardy trees, when dormant, we use one-fourth more of each of the above. When the canvas has been placed over the stock to be fumigated we then prepare the charge. We use a three or four gallon glazed earthenware jar into which we pour the necessary quantity of water, then the sulphuric acid and place it well under the canvas, the edges of which are secured with soil or in some way so as to prevent the gas escaping, with the exception of the edge immediately in front of the jar. The proper amount of cyanide of potassium is then dropped in the jar from a long scoop and the tent is immediately closed and remains so for one hour. Do not use pulverized cyanide as the chemical action is so violent it is liable to boil over. Do not fumigate if the stock is wet or damp. In fumigating nursery stock I prefer canvas sheets as they can be adjusted to the size of the pile, besides it can be immediately transferred to another lot, whereas if the work is done in a fumigating house a charge of gas sufficient to fill the house has to be applied, even if the house is only partly filled with plants or trees and the stock has to be taken out of the house before it can be again refilled. The sheets can be taken to any part and this saves handling of the trees. If the house is large the gas is denser above and the trees on the ground are not treated as thoroughly. When sheets are used on nursery stock the piles are seldom over 5 feet high so all are well fumigated. In the case of fruit we treat it in air tight rooms, using one ounce of each of the chemicals and two ounces of water to each 100 cubic feet. We leave the rooms closed for three hours.

Inspection. — In the inspection of orchards the county commissioners or their inspectors in the principal frult growing countles endeavor to make an inspection of the orchards at least once in two years and in some counties every year. Riverside, San Bernardino and some other counties have a very complete system of orchard inspection and use printed charts, with the rows and cross rows of trees blocked out and numbered thereon. When a tree is found infected with a pest a designing mark is placed on it and at the intersection of the chart corresponding to where the tree stands. After the orchard is inspected the chart is turned over to the foreman of the fumigating crew and the infested trees can be readily located and treated. Orchards are fumigated

after sundown, as the gas is more effective; so this work is done during the night. All fumigating should be performed then or in a shaded place.

In districts where infection is more general the entire orchard is fumigated. Four men constitute a crew and will treat from 100 to 300 orchard trees, according to size, in one night of twelve hours. Trees under 12 feet in height are treated with "bell tents." The name will indicate the shape of this style tent. The mouth is kept expanded by a hoop made of gas pipe. This pipe is also used in placing the tent over the tree, this is done by elevating one side and passing it over the tree and with a pole to support the apex, the hood or tent is easily adjusted. The tree supports the tent. One crew will operate from fifteen to thirty "bell tents" according to the height of the tree being treated. Each tree is exposed to the gas for forty-five minutes. The fumigating is done from September to December.

Trees over 12 feet in height are usually treated with what is known as "sheet tents." These are made otagonal and the sizes are 32, 48, 52 and 60 feet in diameter. To raise those over the trees two poles are required, each 2x4 and 24 feet high of dressed Oregon pine. Across the bottom of the poles are bolted, one on each side, two pieces 1x3 and 6 feet long. To each end of the cross pieces a brace 2x4 inches and 4 feet long is fastened to the upright pole, thus making a brace which prevents the pole from falling sideways when hoisting the sheet over the tree. A ¾-inch guy rope 33 feet long is fastened to the top of each pole in front. A 4-inch block is fastened in the rear at top, through this block is passed a rope 70 feet long to raise the tent. The sheet is dropped back of the tree, the uprights are raised one on each side of the tree, the end of the rope is secured by a hitch to the edge of the sheet and it is hoisted into position and at the same time is steadied by two men at the guys, who pass in the direction the pole is to fall. When sufficiently elevated the men pull on the guys, thus bringing the sheet forward and at the same time over the tree. The uprights are then allowed to drop leaving the sheet in position. The tent is adjusted around the bottom and the charge applied. The same uprights answer for all the tents operated by the crew.

The above brief account will assist the beginner, but to become expert will require perseverance and practice.

The Foreign Expedition for Beneficial Insects.

We alluded lately to the appointment of Geo. Compere by the State Board of Horticulture to seek beneficial insects abroad. Mr. Lelong announces that at the meeting which appointed Mr. Compere, Albert Koebele was present and addressed the Board. He said that, in accordance with instructions from the Hawaiian Government, all possible assistance would be rendered, it being understood that both Mr. Koebele and Mr. Compere will travel together, although independently engaged—one to assist the other. Both will leave about the 20th inst. for Honolulu, and from there on August 5th will go to the Fiji islands, and on October 5th from there to Australia. In February, 1900, they will leave Australia for Java and Singapore, returning to Honolulu and San Francisco in about ten months, when Mr. Compere will leave for the south of Europe.

HORTICULTURE.

Mr. Lelong's Nurse Root Process.

We are indebted to Mr. Lelong for copies of letters he has written in explanation of his experiments with propagation of trees from large cuttings with the assistance of nurse roots from an adjacent growing tree. As we mentioned in the PACIFIC RURAL PRESS of July 8, the publication in the papers of Mr. Lelong's undertakings was premature, as he intended to go into the matter quite fully in his next report. What follows is, however, sent us by Mr. Lelong and may be taken as a preliminary statement of the matter:

The Method.—Select first the mother tree. From one side, or from both sides, remove the earth until you uncover a root about the size of a pencil or larger. Taper the end of this root down to wedge shape and insert it into an oblique cut in the branch of the tree (which you have previously saved from your pruning or taken specially from a tree for the experiment). The root should be grafted into the branch, 3 or 4 inches from its base. Of course, the branch must be grafted to the root of a standing tree of exactly the same species. Having carefully grafted the root into the branch, as directed, cover the roots and limbs with sand, and then bank the sand a foot of two above the ground, up around the grafted branch. Do not bank the sand around the mother tree. This can be prevented by boxing the mother tree if necessary. If desired, you may graft three or four branches to three or four roots on the mother tree, without injury. Now you must give grafted branch plenty of water. Keep it moist. Wet the sand three times a day.

How the Branch Becomes a Tree.—Shortly after the grafting has been done the base of the branch where it was cut from the tree becomes callous, as also does the place where the incision was made for grafting, and then, fed by the foster mother root, the branch gives roots of its own. In this manner, properly attended to, the branch, being kept alive by the foster mother root, will shortly throw out roots of its own, and the following season may be transplanted—a healthy and vigorous tree—and another branch may be immediately grafted to the same mother root from which was just removed a propagated branch, and the process continue, with one mother tree nourishing and developing younger trees from branches, until they, in turn, take root, and can go to housekeeping for themselves. Thus far in the experiments I have seen nothing that would limit the size of the branch that could thus be grafted into a tree, except that the mother root would have to be larger for a very large branch than it would for a slight, tender branch. A mother tree can be made to support and start three, four, or more, branches at a time.

Experiments Already Made.—We already have limbs 2 feet long taken from a Washington Navel orange tree that were thus grafted upon roots, and have shown within a few months growth equal to three or four years by the ordinary method. Of course, it is going to take several years to demonstrate whether these propagated trees from branches are going to be prolific bearers or not. That large branches can be developed to the bearing stage within a year is already established; but, when advanced to that stage, will they enter upon their mission and bear fruit is an unsolved problem and remains to be determined by further experimenting. I have a branch of magnolia tree thus grafted seven months ago. It was then 2 feet long. It has not only taken root, but has grown 2 additional feet in the past seven months.

Propagators well know how tedious it is to grow conifers in particular, which has to be done by either planting the seed or by cuttings, requiring in either case from three to five years to become salable plants. By the process here spoken of plants suitable for outdoor planting may be grown in a single season.

I have applied these processes to about 4000 trees, which are now in nursery and which will be suitable for orchard planting the coming spring, two or three seasons at least being required by any other method. My experiments are on a broad scale. I have now about 200,000 orange trees in the seed bed, which next spring I shall put through the process, and which in a year or two thereafter I expect will be ready for orchard planting, otherwise at least five years being required.

The Splendor Prune.

TO THE EDITOR.—I am more than pleased with the Splendor prune of Burbank's. It got rather a black eye because the owners of it, a Missouri firm, exaggerated its size and also because it does not fall from the tree when ripe, as with the Petite. To counteract these objections, however, it is, first, perfectly freestone, the pit dropping out of the prune when cut; second, the pit is much smaller than that of any other prune. It is quite a surprise, when taking one in the mouth (cooked for the table) to find the pit slip so easily without one's having to work to detach the meat; third, a "hand-picked prune" would be a selling card, and, as the fruit grows low down in the body of the tree, which is a great and regular bearer, there would be very little, if any, difference in time between pulling these prunes off with the two hands (as they may all be gathered at one picking) and crawling over the ground two or three times after a crop of Petites. There is a great future for this prune, as it ripens just after Burbank's Sugar, or a week or two before Petite.

LEONARD COATES.

Napa, Cal.

Germany Advised to Study Yankee Notions.

Prof. Hollrung of the Halle Experiment Station, Germany, says in his report for 1898: "Unusually heavy damage has occurred in orchard production. While some of this shortage has been due to unfavorable weather, by far the greater part is caused by utter neglect of protective measures against insects and fungi. Owners excuse this neglect on the ground of low production, cost, and technical difficulties. The low production is almost always the direct result of neglect, as above stated; the technical difficulties arise merely in the case of standard, high-pruned trees. Such antiquated relics should simply be abolished; the future is for dwarf and low-pruned trees. What can be done with these is strikingly shown in the United States, where even the high cost labor has not proved an obstacle to the profitable production of abundance of clean fruit."

[This is very good advice, and it is especially comforting to Californians to know that with them rests the credit of demonstrating the value of low-headed and well-treated fruit trees as the foundation for a great industry.—ED.]

FRUIT MARKETING.

Marketable Fruits and Their Selection and Packing.

By FRANK L. WHEELER of North Yakima at the meeting of the Northwestern Fruit Growers' Association.

What is the Condition Suitable for Marketing?—There is no doubt that often have our fruits been sold when too green and thereby given a reputation for producing fruit without the requisite flavor. But who must avoid this, the grower or retailer, or both? The grower can do much to avoid the complaint of fruit picked too green, lacking in flavor, by carefully choosing the fruit for any particular market. If fruit is to be shipped to a point where it will, in all probability, be disposed of inside of twenty-four hours, select the ripest fruit that will stand the journey, and take other fruit, less matured, for those points where it cannot be placed before the consumer in less than forty-eight hours or more. But I hear the objection raised that such careful sorting takes too much time and cannot be afforded. Fruit growers, if any are present who think that a valid excuse for not following the advice just given, I say to you, you will never make the success that you might make in this industry; and I also tell you that those men who will not attend to these (at first sight) small points will be driven to the rear ranks by those who will. This business is made up almost entirely of little things, and it is attention to each and every one that makes the successful fruit grower, so rare among us. This point has been so often brought to your attention that it is but repetition to bring it up again, and yet it is one of the most important factors in our chosen profession.

Picking.—Have you not all seen one or two peaches, over ripe, spoil the appearance of a whole box that would otherwise be fair to look upon and a delight to eat? Could not the grower have afforded the time to place in that box just two more peaches evenly matured with the others, and would it not have paid? If we, the growers, always knew exactly where our fruit was to be sold we could have it reach the market in prime condition—as to ripeness—just as we do when we ship to private customers, but in shipping to the commission house we cannot know where it may find a good market; it may be retailed the day after packing or it may not be retailed for a week, so that here we must add another burden to to the already heavily weighted shoulders of the commission merchant. He should watch the condition of our fruit for us. We must pick green enough so as not to force him to sell and break the market; he must sell our fruit when it is at its best. It is a case of reciprocity.

Grading.—Another point in choosing our fruit for packing is the one of proper grading as to size. We have all heard of, and most of us have seen, the box of apples beautiful to look upon just underneath the cover of the box, but going rapidly down the scale of size as we delved to the bottom layers. Of course, none of us are guilty of this crime, but the "other fellow" is, and we are made to shoulder the responsibility of his acts because we stand before the public as a class and not as individuals. Next to the highest compliment a grower can have I once heard paid a producer, who is well known in this association, when a retail dealer took off the bottom of a box containing peaches to prove their excellence to an intending purchaser. The highest compliment to which a grower can aspire is to have his fruit purchased without inspection—to have his brand a synonym of good fruit well packed. In grading fruit great care should be taken that each row and each unit of each row should correspond with each and every row and unit in the box. Here, again, it is a little thing, but it makes the difference between a fine box of fruit and a mediocre box of fruit. It is difficult, sometimes, to find just the right size of peaches or apples to fill a box, but it would be better to leave the box unfilled upon the packing table than to fill it with varying sizes, only to blast the chances of the balance of an otherwise good shipment. In many packing houses I have seen the packers use but one box at a time, and place therein fruit that should be graded into three classes, as to size, and each class placed in a box of the proper proportions. By using several boxes, of different sizes, at one time the packer can place each fruit where it belongs, and when the boxes are filled each will present an even and regular appearance. Below a certain unwritten law, well known to all of us, as to the smallest size that fruit can be classed as marketable, we must not choose, but throw away.

Undersized Fruit.—By throw away I do not necessarily imply waste. Undersized fruit can be profitably disposed of—for one way, by feeding to pigs. In proof of this assertion I will tell you of an experiment I made the past season. In the spring I purchased two shoats and, placing them in a pen, allowed them to be fed nothing but a little skim milk, such garbage as came from the house, and as much waste fruit as they would eat, the last-named being their principal ration. On December 1 my

two shoats of the spring had developed into two hogs, showing a total weight of 570 pounds, which, at current prices, netted me more than the small fruit would have done—for it was worthless, from my standpoint, as marketable or profitable produce. Some growers will say that my undesirable fruit would have paid as well if shipped, but I feel sure that it would have injured the sale of my good fruit to such an extent that it would have shown a loss rather than a profit; and another year I shall dispose of all undersized fruit in this way. Having discussed the maturity and size of fruits, we must now take up the question of quality in regard to its bearing on the sale of our product. Setting the matter of best varieties aside—for we must sell what we have at hand, and that question is hardly within the scope of this paper—let us see what are the most vital little things in this connection. Were we to go out in the markets of this country to buy for our own use any certain kind of fruit, what would we look for? Poor fruit? Certainly not. Fair fruit? Possibly, if we had to carry the idea of economy uppermost in our minds; but if we could afford to pay the market price, I am sure none of us would seek anything but the best. Then the question of quality is easily answered, for certainly we do not wish to put upon the markets, for sale, fruit that we would not be willing to buy should the relation of seller and purchaser be reversed. I know of no better standard to place before you in the choosing of the quality than the motto found in the gospel of Matthew: "Whatever ye would that men should do to you, do ye even so to them."

Tricks of the Trade.—That all fruit cannot be grown, by any known method, to be classed as choice is, of course, a self-evident fact, and the second or third grades may be an entirely satisfactory marketable product, and as such received on the markets and find their proper sale; and in these grades the economical purchasers will find their field and the price paid will be such as the fruit warrants. But it is not this lower but the highest possible price that we expect, as a class, to receive for our product, and it is for this highest price that we are striving. Then let us endeavor to put the best fruit we can produce upon the market, and the returns will justify the effort. The public cannot be fooled by such transparent tricks as have been perpetrated upon it for many seasons, such as a rosy cheek of an apple carefully laid rosy side up and thus concealing a worm hole on the other side; nor does a large, luscious peach, side by side with a hard, deformed specimen, lure the innocent purchaser. We cannot gloss over the defects of our fruits, try as we will; but we can put up the finest quality, and then no gloss is needed. I once heard of a fruit grower in an irrigated section who had a great quantity of small and undesirable fruit to sell. His local market would not take them, and so he packed them up and, thinking to find a market where the people were less discerning, he shipped them to a distant point, each box bearing a label on which was printed a statement to the following effect: "These peaches were grown with a minimum of irrigation, on which account they are finer flavored, but had more water been used they would have been bigger." It is to be regretted that the label was not attached to each and every peach, for I fear some of the purchasers forgot that fruit's excuse for being on earth before they had finished the box. Good fruit needs no apologies, and the public does not need nor want poor fruit. See to it that your fruit has attained its best flavor, its highest color, its most perfect shape, before you send it out labeled as choice and bearing your name upon the package as a guarantee of its good quality. You all know that a scarred peach, a wormy apple, a scabby pear, is not fit to go into a box of otherwise good fruit. You would not praise the producer of such a package should you be an innocent purchaser, therefore you have sufficient reason for choosing only good and perfect fruit for marketing. Be honest with the purchaser, for it is on him that we depend for a living, and the profits you will reap will repay you well for the exercise of the principle that the merchant, the lawyer, the banker, the laborer, no less than the horticulturist, must pursue.

Art of Packing.—Having chosen the fruits that we should attempt to market, let us now look after the little things that make up the art of proper packing. The first requisite is a package, and that subject opens up a vast field for discussion, for one person asserts that the well known peach basket of the East is the only proper package for the purpose, while another is equally positive that the peach box should be the only form used. One says that apples packed in our commonly-used box are the only ones rightly packed, while another states that the barrel only should be in use for the purpose. I shall not discuss the advantages of the different forms of packages, for each one has its champions and each has many commendable features, for it is not my wish, at this time, to enter upon an argument of the form of package that shall be used. Take up what form you will, but see to it that what you adopt is the best of its kind. If you use a box for packing your luscious peaches or your beautiful apples, have that box made of clear material, have the various pieces that form its component parts cut the proper length and width and have the lumber clean. Compel your boxmakers to drive the nails into the wood straight, and do not leave the points of the nails projecting, to tear the hands of those who have to carry the box from the packing house to the railway carrier, thence to the middle man, and from him to the consumer. Only a little thing, I hear some one say, but again I repeat, this business of ours is composed of only little things, but taken together they form one of the noblest occupations to which men can devote their energies. One of the greatest sins, to my mind, is to put nice, clean fruit into a dirty box. If your box material has become soiled and discolored because you have provided no proper place for its protection before using, then you are not at liberty to foist that unclean box upon the consumer of your produce. Again, I believe it is false economy to use boxes of second-grade quality, for a box made up of material largely composed of open knots and crossgrained wood, which splits and cracks when nailed together, cannot make an attractive package. The practice of some growers, who use old boxes, picked up here and there, often having been used for various purposes, and, in their course of treatment, having become soiled and stained inside, and then putting on a new, clean cover in order to deceive the purchaser, cannot be too strongly condemned. The days of split cedar boxes and rough, uncouth-looking packages of any kind are passed, and we must adapt ourselves to the present requirements of the business. The public appreciates the clean, well made and neatly-appearing package of whatever form, and we must see to it that the consumer gets what he wants—for, unless we do, how can we expect to sell our wares? And, after all, is not that the one vital point that we are seeking—how to sell our produce to the best advantage of our pockets? What I have said applies as well to barrels as to boxes, provided you use either of those forms of package. Have all material clean, made of the proper proportions and correctly put together, then you know that you have a package that you need not be ashamed to own as your own handiwork. It is not many years ago that all fruit when packed for market was simply placed in the package and the cover nailed on. In case one unit in the package was smaller than its neighbor, a space was left in which no better opportunity could be found for bruising and spoiling by the rapid decay thus invited. Now this danger is easily avoided by the use of wrapping papers. Every peach should be wrapped in a paper of the proper size, and when thus wrapped the danger of bruising is reduced to a minimum. Do not do, as I have seen some growers do, wrap two peaches in one paper, for in that way you frustrate the very purpose of wrapping. All fruit wrapped in paper presents a more attractive appearance than otherwise, and, as a friend of this association once remarked, "appearances go a long way toward sharpening the appetite."

Wrapping the Fruit.—Another point in this connection I wish to bring to your attention: In wrapping fruit, use the right kind of paper. Some growers assume that, if fruit must be wrapped, any kind of paper will answer the purpose. Were these men to go into a first-class restaurant in quest of a dinner, they would not be satisfied to be served from tinware and on an oilcloth spread, but would demand the best. So in this business, the public demands the best; and old newspapers, old wrapping paper, varying in shade from dark brown of the butcher shop variety, to the many colored hues to be found in the high-class pharmacy or stationary store, are entirely unfit for our use. Fruit wrapping paper is a known article of merchandise, made in several weights and sizes, and is adapted to our purpose—use no other, for, if you do, you are simply standing in your own light. A package of fruit wrapped in clean fruit paper will sell for more than the added cost of the paper, and as many of the producers of the best fruit are already confirmed in the use of wrapping paper, we must all conform to this now well known improvement; that is, if we desire to keep to the front in our work. And in this business, as in all other lines, no laggards are wanted, and, if any exist, they will ere long be left far in the rear by the progressive element that studies the wants of the people, conforms to their desires and thus gains a competence for itself.

Branding.—Another important subject in reference to the packing of fruit must not be overlooked. I refer to the branding of our packages. I presume all of us when we first put our products on the markets used a stencil and the old familiar lamp-black dauber to brand our boxes. The objections to this method are many: It is difficult to hold the stencil firmly enough to secure a distinct impression; it is more difficult to secure uniformity in the color of the impression, and, when made, the impression is always easily blurred when anything touches it, making it unsightly and very untidy in appearance. The expense of a steel die is now so slight, boxmakers have all seen the necessity of their use so clearly, and now make no charge to print the impressions—providing they are furnished with the die—that there is no excuse for growers to continue the old method. Adopt a form for your die, making it as plain or as elaborate as you desire, and, when your packages go to the market branded indelibly with your name and address, make that brand your trademark and let it stand as your guarantee that its contents of the box are first-class in every particular. When you intend buying a plow, a harrow, a spray pump or an orchard cultivator, you look for the maker's name, and, finding it to be a well known manufacturer, one of whom you have had proof that he offers only good wares, you buy the article because his name is a guarantee that the article is what it ought to be. Should your brand on a box of fruit be any less a guarantee of good value within? I can assure you that the grower who will build up a reputation by having his goods sold under his name, and always having those goods up to the standard of excellence that I have tried to indicate, will not lack for steady, regular purchasers year after year, and his fruit will always bring a good price. Our markets may be overstocked with poor fruit, and often are, be it said to our shame, but no market yet was ever glutted by fancy fruit. The latter, I claim, will always bring a paying price, regardless of the condition of any market. Let us aim to produce fancy fruit, fancy packed—not in name only—for it costs but a few cents to buy a rubber stamp that will mark anything choice or fancy; but that mark will not deceive the purchaser more than once, and your goods must be true to their brands.

In Conclusion.—The marketing of fruits begins, then, not when the fruit is boxed and shipped, but many months before—given proper trees and varieties, clean fruit, free from pests, and our marketing is only just commenced. We must, first of all, pick it right, then choose it right, wrap it right, pack it right, and then we may rest assured that it will bring the right price—but, neglect any of these little things, and you run the chance of getting the wrong price, and all the other labor will have been in vain. You can no more afford to leave undone the little things than the great ones; the little things bear the same relation to the great as interest to capital; therefore, if you would do business to make the interest on your capital invested, you must look well to these minor matters.

In closing, I leave with you the words of an Idaho fruit grower, which he has incorporated in his box brand, and which stands as his guarantee to all purchasers, and which each and every one of us may well copy, if not on our brands, at least in our business: "We ship only good fruit, well packed."

FLORIST AND GARDENER.

Large Product of Peas and Asparagus.

The largest pea farm on the Pacific coast, and perhaps also the largest in the United States and in the world, according to the *Pacific Bee*, is in Sacramento county, near Trask's Landing, on the Sacramento river. This is the property of P. J. Van Loben Sels. He has 250 acres planted to peas this season. They are grown on contract for the Sacramento Packing & Drying Co., of which R. I. Bentley is the manager, and are canned where grown.

The peas are of the "sugar" sort, which is the only kind used for canning purposes. When mature, they are mowed by machinery, the stalks being cut close to the ground. They are then pitchforked upon wagons, which deliver their loads at the cannery. There the first operation is that of shelling. This is performed by an ingenious machine somewhat similar to that used for the thrashing of wheat. The vines are thrown into a hopper, and, when the thrashing process is completed, the shelled peas run out, free from all mixture with pods or stalks, and the refuse is discharged from another part of the machine. This is the only machine of the kind on the Pacific coast, the cannery having purchased an exclusive right to its use. It greatly cheapens the harvesting and canning of the peas. Its capacity is about five acres a day.

Mr. Bentley says there are fully 1000 acres devoted to pea farming in California. Large quantities of peas are grown in southern California, and also about the bay of San Francisco. As to the inducements to farmers to engage more extensively in the production of peas and other vegetables, for sale to canners, he expresses the opinion that such farming would not be generally profitable save where some arrangement is made for growing and packing the vegetables on contract, as in the case above mentioned.

"It is, of course, a great advantage," says Mr. Bentley, "to have the vegetables grown where they are canned. On the Van Loben Sels place, for instance, there are 250 acres in asparagus, as well as 250 acres in peas. In two hours after the asparagus or peas are cut in the field, they may be sealed in cans. In this way the cost of transportation is avoided, and the vegetables are packed in the best possible condition, with no loss from spoiling. Mr. Van Loben Sels will plant fifty acres more in asparagus this year. He began planting it four years ago, and it is grown for the cannery, just as the peas are, only the very early asparagus being sold elsewhere. No doubt, however, asparagus growing on a much smaller scale and for the general market has proved profitable in this neighborhood."

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

SUGAR MILL OPENS.—Niles *Herald*, July 21: The Alameda sugar works at Alvarado began the season's work Monday by running on last year's syrup, which makes what is known as the second product. A number of men have arrived and everything is being put into shape for the coming beet crop, which will begin to arrive in three or four weeks.

PRICES FOR WINE GRAPES.—Livermore *Herald*, July 22: A. Duval offers to buy for cash on delivery at his cellars a certain number of tons of the following grapes: Zinfandel, $15 per ton; Mataro, $16; Carignau, $16; Mandeuse, $16, The grapes to be delivered in first-class condition, free of rot, mildew or sunburn, and showing 22 degrees of sugar.

APRICOT CROP.—Livermore *Herald*, July 22: The apricot crop is being gathered rapidly, and while the yield is not heavy the fruit generally is large. From two to four carloads a day are being shipped from Niles to the various canneries. Some early prunes and plums are also being shipped. William Barry reports the purchase of about $7000 worth of apricots in this section for King, Morse & Co., at San Leandro. He paid $50 a ton for 8 to the pound and $45 for 10. This represents about 120 tons. He also secured fifteen tons of prunes for the same concern, and about twenty tons of Silver prunes for Kimball of Haywards.

Butte.

CANNERY BUSINESS.—Chico *Enterprise*, July 20: Fruit is ripening very slowly, and while this is a good thing for the grower the canners and their employes are getting very anxious to get to work. The Chico Canning Company has made preparations for a large run. The whole plant has been remodeled. Large fans, run by steam, extend across the entire workroom, and many other changes have been made which will add to the comfort and convenience of their employes. In the new carriage shed a rack has been put in in which bicycles can be kept out of the sun. Hacks will run morning and evening from the distant parts of the town, so that those who otherwise would have long walks can ride free of charge. The run on apricots, while large in the aggregate, required very little help, as the pack was extended over some time and the fruit is easily handled. With peaches the case is different. They have to be peeled and the amount of fruit handled will only depend on the capacity of the plant.

Colusa.

FEMALE HARVEST CREW.—Colusa *Sun*, July 19: Colusa county can boast of a female harvest crew. Last Saturday Miss Lillie Kearney mounted the driver's seat on Marr's harvester, Miss Cora Powell took the position of sack tender and Mrs. Amerigo Morris took another station on the machine and the work commenced. We did not learn how many acres they went over or how many sacks they turned out, but the machine boss informed us that they did excellent work.

Contra Costa.

GROWING WEALTHY.—Martinez *County Paper*: The increase in the assessed valuation for the present year over 1898 is $1,168,936, the total assessed valuation for 1898 being $13,993,410 as against $15,162,346 for 1899.

ALMOND GROWERS FORM A UNION.—Antioch *Ledger*, July 22: At a meeting of the almond growers, the Contra Costa Almond Growers' Association was organized with William Shafer president and Richard Trembath secretary. The following constitute the executive committe: James O'Hara, W. F. Pearce, S. C. Scott, Joseph Ruckstuhl, R. W. Elliott, Oliver Wristen, A. M. Graves and A. N. Bridges.

Humboldt.

DISTRICT FAIR NOTES.—Eureka *Standard*, July 22: The directors of the Ninth District Agricultural Fair and the Mechanical Agricultural Association met to consider matters pertaining to the joint Fair which will be held in this city in September. Mrs. Jessie Lewitt was chosen superintendent for the Women's Department at the pavilion. The committees appointed are as follows: Finance—C. L. Pardee, Willard Wells and Dr. W. H. Wallace. Pavilion—T. B. Cutler, Willard Wells and E. E. Skinner. Track—J. F. Quill, Dr. R. Gross and C. L. Pardee. Transportation—Dr. W. H. Wallace, E. E. Skinner and Dr. R. Gross.

Kern.

PACKING HOUSE COMPLETED.—Bakersfield *Echo*, July 20: The B. F. Brooks Co.'s new packing house is finished and is one of the best in the valley. An addition is being made and when it is finished the floor space will be 107x80 feet. Machinery, including raisin stemmers and graders, has been received and will be placed this week. It will be driven by electricity, two 5 H. P. motors having been purchased for the purpose.

Los Angeles.

SPLENDID WELL.—Pasadena *Star*, July 19: Jas. Craig, near Lamanda, has finished a well in which he gets the magnificent flow of twenty-three inches of water. It is a bored well, ten inches diameter, and cost $5000. Mr. Craig has put in a pump, driven by a 15 H. P. electric motor, and feels his money well invested.

MONEY IN 'COTS.—Pomona *Times*, July 19: From three and three-fourths acres Col. E. Hicklin has harvested 18 tons and 651 pounds of Royal 'cots and has the fruit of ten trees of Moorparks still in the orchard. He received $25.50 per ton, or $467.30 for the lot. He had twice as many as he expected, and they were of large size and high quality. They were grown without any irrigation. Col. Hicklin is of the opinion that the large crop was due to his method of pruning, which is low and stocky. The trees are six years old.

NEW PUMPING PLANT.—Pomona *Times*, July 19: W. F. Loud has a pumping plant that can hardly be excelled for smooth work and bringing water to the surface. The Loud orchards amount to about 600 acres, the larger portion being citrus. Mr. Loud sunk four wells—in depth respectively 257, 250, 195 and 187 feet—and put in a 50 H. P. air compressor engine which is raising 100 inches of water. Every part of his plant works to a nicety. Compressed air raises the water. There are no pumps and no valves, only pipes through which air is forced. Crude oil is used for fuel. The cost of operating the machinery for twelve hours is about $10. The power house is a model of neatness and is well protected in case of fire. Aside from a 6000-gallon tank of water on a tower, there are perforated pipes near the roof from which hundreds of streams of water can at once be turned loose.

Marin.

HORSESHOERS COMBINE.—Dispatch from San Rafael, July 22: The horseshoers of this county have formed a union under the auspices of the State Horseshoers' Union, to keep up prices and fight transient shops that locate in Marin county merely to obtain a share of the summer trade. John McLaughlin was chosen president and John Redmond secretary of the union.

Monterey.

SQUIRREL BOUNTY INCREASED. — Dispatch from Salinas, July 18: The Supervisors have increased the bounty on squirrel tails from 2 to 3 cents. Gopher tails are also included in the bounty.

TALL OATS.—Salinas *Index*, July 20: S. M. Shearer brought to this office from George Green's place a bundle of black oats 7 feet in height. The bundle is an average of the crop on twenty acres, the yield of which will be at least forty sacks to the acre.

BEET SUGAR PROSPECTS.—Watsonville *Pajaronian*, July 20: The sugar beet crop is rich with promise in Pajaro valley. Across the river, in the Mud Flat and San Juan road districts, beet crops never looked better nor promised heavier crops. The Pajaro valley is going to have a banner beet crop this year, and a golden flood will follow its harvesting. This side of Chualar, in the Salinas valley, the crop looks well, and especially so on the Cooper and Moro Cojo ranches. On the Miller ranch, near Gilroy, there will be heavy beet crops, but in the Soap Lake district the fields are spotted. In the San Juan district a considerable part of the best beet land was planted to grain, but there are good beet crops in that section, and the farmers who held off for beets have not missed it. In the King City district hot winds and a tap-root pest have played havoc with the crop, and the yield will be light.

Orange.

CANNING APRICOTS.—Orange *Post:* From one of the hands it is learned that the Anaheim cannery in a two weeks' run put up 250 tons of apricots, paying for the same at the rate of $27.50 per ton, and filling 165,000 quart cans, besides a quantity of larger sizes.

CHAMPION ROSE TREE.—Santa Ana *Herald*: Santa Ana's champion rose tree is the property of Dr. E. F. Greenleaf. It is a Lamarque and grows close to the side of the windmill tower, where it has thriven for fourteen years without any attention except to provide trellis room for its spreading branches. The trunk of the tree measures 3 feet in circumference at the ground. The branches are trained over a trellis work covering a space some 30 feet square. The blooming season is now past, but yet this wonderful tree is laden with hundreds—probably thousands—of roses.

San Benito.

NEW IRRIGATION PLANT.—Hollister *Advance*, July 21: A new 30 H. P. gas engine on the farm of A. M. Hardin is hoisting water at the rate of 1000 gallons per minute at a guaranteed cost of 40 cents per hour. The ease with which it handles the column of water, lifting it 62 feet, is a revelation. The engine, although so powerful, is neatly and compactly built and withal so simple in mechanism that it can be successfully operated by any person of ordinary intelligence.

CREAMERY DIRECTORS' MEETING.—San Benito *Advance*: At the annual meeting of the stockholders of the Hollister Creamery, the present board of directors were re-elected. A dividend of 50 cents per share was ordered paid. Manager Dooling presented the following statement, showing that the creamery has disbursed $19,222.98 in cash in this community during the past fiscal year: We have received for the year ending July 1, 1899, 1,891,015 pounds of milk and made 81,714 pounds of butter. Receipts—Rent of creamery lot, $6; butter, $18,080.29; skim milk, $888.19; buttermilk, $117.45; cream, $131.05; total, $19,222.98. Expenditures — Expense, $2589.53; milk, $15,262.10; ice, $94.23; wood, $486.75; interest, $130.65; net gain, $659.72; total, $19,222.98. Net gain, $659.72; paid dividend on stock issued, $439; surplus net earnings, $220.72.

San Bernardino.

NEW HORTICULTURAL COMMISSION. — Redlands *Citrograph*, July 22: Robert T. Curtis of Idlewild, Robert Bosworth of Highland and J. S. Fink of Ontario have been appointed horticultural commissioners to fill vacancies occasioned by removal of members of the old board. Mr. Fink was chosen chairman and Mr. Curtis secretary of the new commission.

NEW TOLL ROAD.—*Citrograph*, July 22: Articles of incorporation of the Bear Valley and Redlands Toll Road have been filed. Redlands is the principal place of business. The capital stock is $10,000, of which $5000 is subscribed, as follows: Hiram Clark, $1000; Francis A. Case, $500; W. G. Wilson, $50; J. H. Fisher, $25; Gus Knight, Jr., $1000; H. B. Wilson, $50; L. J. Rice, $50; N. C. Knight, $1000; J. W. England, $50; Patton & Snelson, $50; C. L. Partridge, $20; L. Thurman, $250; Gus Knight, Sr., $250. The first five named above constitute the board of directors.

San Joaquin.

SHEEP SHIPMENT.—Lodi *Sentinel*, July 22: About 7000 sheep were unloaded here, en route to the Black ranch, where feed is plentiful. The sheep came from the Miller & Lux ranges near Bakersfield.

CREAMERY OUTPUT.—Stockton *Mail*, July 18: Charles A. Stowe, manager of the creamery, states that the output of the creamery averaged from 500 to 600 pounds a day. During the month of June the creamery paid $2619.80 for cream and made 12,983 pounds of butter at an average price of 23 cents a pound.

FRUIT GROWERS' ORGANIZATION.—Lodi *Sentinel*, July 22: An adjourned meeting of the fruit growers met at Lodi for the purpose of perfecting organization. A large number of representative growers attended and much interest was manifested. The meeting was called to order by President S. A. Kitchener. The central idea is the union of the growers for the purpose of handling and disposing of their fruit to the best possible advantage through co-operation. The name of the new organization is The Fruit Growers' Association of San Joaquin County. It is officered by five directors and a treasurer. Those chosen for directors are: S. A. Kitchener, Levi Atwood, F. B. Mills, George Stafford and T. C. Shaw. M. W. Shidy was elected treasurer. The directors were instructed to immediately confer with the various manufacturers of box material for the purpose of securing the necessary crates and other material in large quantities at the lowest possible rates.

San Luis Obispo.

GRAIN PROSPECTS.—*Tribune*, July 21: The bright prospect for crops would appear to be fully realized so far as we can gather from the reports of thresher managers. On this side of the mountains the barley is producing very heavily, although near the coast it will be somewhat dark. Postmaster Fowler returned from a trip to the other side of the range and reports that the farmers there are agreeably surprised at the amount of the yield. There are eight threshing outfits in the field. At Schroeder's place, near Creston, fifteen centals to the acre is reported. That is a good showing, but the farmer on this side has a better thing this year. Many are rejoicing in a yield of barley which will average thirty centals to the acre.

Santa Barbara.

CROP PROSPECTS.—*Press*, July 20: Two steam threshers are at work in this valley, and the crops of wheat and barley will be sacked for market in short order. The yield is reported good, one place on mesa land at Naples going as high as forty centals per acre. Beans and corn do not seem to be making as rapid growth as expected. Both seem to be suffering from lack of moisture. As a rule, these crops will be very light.

NO FAIR THIS YEAR.—*Press*, July 20: The board of directors of the Agricultural Association of the Nineteenth District elected C. E. Sherman president; H. B. Brastow secretary; Geo. Edwards treasurer. It was practically decided not to hold a fair this year, but to endeavor to hold the appropriation for the purpose and add it to the appropriation for next year. The board at present consists of the following: C. E. Sherman, H. B. Brastow, G. C. Packard, H. F. R. Vail, F. Glass, E. P. Dunn and T. P. Izard.

Santa Clara.

PRUNE PROSPECTS.—Mountain View *Register*, July 21: A very large crop of Silver prunes seems to be assured.

FRUIT CROP.—*Register*, July 21: The fruit all around seems to be unusually fine this season, and almost everywhere we go samples of large apricots, peaches or prunes are shown us. A. Moger brought to this office apricots from F. C. Willson's place that went four to the pound, and Percy Lovejoy favored us with a lot of fine peaches, two of which weighed a pound.

Santa Cruz.

APPLE CROP OUTLOOK.—Watsonville *Pajaronian*, July 20: Competent experts say that Pajaro valley will have more apples to ship this fall than it had last year. Crops will be light in many of the old orchards near town, but the new orchards coming into bearing will more than make up their loss.

BERRY SHIPMENTS. — *Pajaronian*, July 20: Driscoll Bros. have been shipping up to 135 chests of strawberries each day this month, and other shippers from the eastern district of the valley have not been far behind. Two and three carloads per day have been the Vega shipments of strawberries this month.

SUGAR FACTORY WILL NOT RUN.—Watsonville *Register*, July 20: The Watsonville beet sugar factory will not be operated this season. All the beets grown in this section will be forwarded to the big factory at Spreckels. Beet crushing at the Spreckels mill will begin some time during the latter part of next month. The local factory will be ready to start on twenty-four hours' notice in case anything goes wrong with the mill at Spreckels.

Stanislaus.

GRAIN CROP.—Garrison Turner, president of the Grange Co. of Modesto, stated that the grain around Modesto will yield about 75% of an average crop, while on the West Side it is much lighter. The crop throughout the county will not be over 65% of a good yield.

Tulare.

HONEY YIELD. — Visalia *Delta*: R. Hyde states that there will be a big yield of honey in Tulare county this year. He estimates the total yield at seventy-five tons, or five carloads. Of this amount two tons will be consumed at home and the balance will be exported. Bees are doing well.

DIRECTORS ELECTED.—*Delta*, July 20: At a meeting of the stockholders of the Wutchumna Ditch Co. the following directors were elected for the ensuing year: C. L. Adams, president; James Fisher, R. Chatten, John Chatten and Wm. Swan, directors; Geo. D. Smith, secretary; R. E. Hyde, treasurer.

Yuba.

A NEW MELON.—Marysville *Democrat*, July 21: Seven miles north of this city is the largest acreage that was ever sown to melons in this section. On the Ryan place, at Lomo, 105 acres are yielding the choicest of this fruit for the promoters, the H. Falk Co. They have also a patch of seventy acres near Gridley. The melons are being shipped to Oregon, Washington, Idaho and Montana. In this connection Manager Miller states that he has made a successful experiment, which means that by next season he will have a new melon to introduce to the local trade. This variety, which does not grow much larger than a Bartlett pear, is known as the Rocky Ford canteloupe, deriving its name from a place in Colorado, where it has heretofore held undisputed sway. Mr. Miller paid $4 a pound for the seed, and he is well satisfied with the bargain, for he finds that the new canteloupe grows on California soil equally as well as in Colorado, and they bring 10 cents each in the New York market, the chief demand coming from clubs. The fruit can be eaten close to the rind, so there is little waste.

INCREASE OF WAGES.—Dispatch from Marysville, July 25: The manager of the Marysville Packing Company made a voluntary raise of about 30% in the wages of the cannery employes to-day. The increase is attributed to the scarcity of help. There is work for about 200 more persons in the canneries hereabouts. In two weeks hop harvest will provide employment for those who will have concluded work in the orchards and grain fields.

OREGON.

COYOTE BOUNTY.—Dispatch from Pendleton, July 18: County Clerk B. S. Burroughs sent to the Secretary of State 1463 certificates calling for the $5 bounty for the killing of a coyote. In Umatilla county the tax money raised by the special sheep tax has long ago been exhausted and the tax on other property is being used. Under the law there is imposed a tax of 1 cent a head on all the sheep on the assessment rolls to create the "scalp bounty fund." The law provides that when this fund shall be exhausted there shall be utilized a tax of one-fourth of a mill on all other property, real and personal.

HOP CROP.—Salem *Journal*, July 20: Fred Searles states that the concensus of opinion of the proprietors of twenty-eight hop yards visited is that there will be about 60% of a full yield. The shortage is accounted for by the fact that two years ago a large number of yards were plowed up and but few have been replaced. The hop growers are all feeling encouraged and many are preparing to put in more hops. The general average of stand is about equal to that of last year. The prospect is good for a fine grade of hops. A hop contract was filed yesterday. By its terms W. F. Davidson of Champoeg agrees to deliver to A. Lehman & Co. of Cincinatti, Ohio, at Aurora, 8000 pounds of hops, the consideration being 12½ cents. The contract provides that, in addition to the $300 paid to the grantor on the signing of the agreement, 4½ cents per pound shall be paid on September 1st, and the remainder of the purchase price upon delivery of the crop.

WASHINGTON.

STATE FAIR.—Seattle *Post-Intelligencer*, July 19: The State Fair Commission has completed the premium list. It has been enlarged to cover all the industries of the State. The commission recognizes the necessity for honest competition in farming and dairying, fruit and vegetable growing, ranch and range productions, and all lines of progress in field and factory. While the State Fair has not yet reached perfection, the earnest co-operation of all interested will make the fourth annual exhibition the best of the kind ever held in the State. The board consists of the following: President, J. M. Baxter, North Yakima; secretary, Dr. T. B. Gunn, North Yakima; treasurer, Matt Barthelet, North Yakima; Hon. F. D. Schnebly, Eliensburg, and Hon. W. L. McDonald, Tacoma. Prof. W. J. Spillman, of the agricultural college, is superintendent of the agricultural department; E. A. McDonald, State Dairy Commissioner, is superintendent of the dairy department; H. H. Collier, editor of the *Pacific Poultryman*, is superintendent of the poultry department; Guy McL. Richards is superintendent of the stock department.

Horse Owners! Use

GOMBAULT'S

Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

Old Times, Old Friends, Old Love.

There are no days like the good old days—
  The days when we were youthful!
When humankind were pure of mind,
  And speech and deeds were truthful;
Before a love for sordid gold
  Became man's ruling passion,
And before each dame and maid became
  Slaves to the tyrant fashion!

There are no girls like the good old girls—
  Against the world I'd stake 'em!
As buxom and smart and clean of heart
  As the Lord knew how to make 'em!
They were rich in spirit and common sense,
  A piety all supportin';
They could bake and brew, and had taught school, too,
  And they made the likeliest courtin'!

There are no boys like the good old boys—
  When we were boys together!
When the grass was sweet to the brown hare feet
  That dimpled the laughing heather;
When the peewee sung to the summer dawn
  Of the bee in the hillowy clover,
Or down by the mill the whip-poor-will
  Echoed his night song over.

There is no love like the good old love—
  The love that mother gave us!
We are old, old men, yet pine again
  For that precious grace—God save us!
So we dream and dream of the good old times,
  And our hearts grow tenderer, fonder,
As those dear old dreams bring soothing gleams
  Of heaven away off yonder.

—Eugene Field.

Miss Carnahan's Two Heroes.

The manager of the "C——," as he rode up to the ranch, on his return from town, looked about as cross as a thoroughly good-natured man can. I was smoking my pipe on the veranda, and could see, afar off that Sutley's wonted smile was missing.

"Read that," he said, as he flung himself from the saddle and turned the broncho loose to run to the stables. "Reckon we'll have to sleep on the roof, or in a haystack. Mph! Seven tenderfeet! Two weeks!" And Sut stamped into the house, swearing softly, while I unfolded the telegram he had flung me and learned that Major Carnahan, president of the Willow Ridge Cattle Company, to which the "C——" ranch belonged, would arrive, three days later, for a visit of two weeks, and that he would be accompanied by half a dozen other "tenderfeet."

They arrived in due time—or, rather, undue time—for we had inaugurated a house-cleaning and general fixing-up campaign, which was only about half completed when they came. Besides the major, there were Mrs. and Miss Carnahan; Mr. Potter, who was tacitly understood to be Miss Carnahan's "accepted"; Mr. and Mrs. Wells, and Daisy Wells, a young lady of three, to whom the whole outfit capitulated at first sight.

Next day "Teddy" returned from his hunting trip. "Teddy," it may be as well to state, was Edward Thayer, A. M., cousin to Sutley, and a young man of charming personality and considerable attainments. To him fell the duty of acting as chief entertainer of the guests, and he filled this post to the queen's taste—or, at least, to Miss Carnahan's, which was much more to the point. The others of the party were easily entertained, but not so Miss Carnahan. She wanted to see everything that was worth seeing, do everything that was worth doing, and, seemingly, tried to find out how many harum-scarum escapades she could accomplish in the shortest space of time; and, of course, this just suited Teddy, who was always ripe for fun.

So, while the others stayed, for the most part, close to the ranch, those two were galloping here, there and everywhere, as happy as a pair of city school children turned loose in the country for a short outing, and determined to make the most of it.

Did you ever stop to think how well acquainted two young people, left pretty much to themselves, can become in a very few days, especially when their tastes lie much in the same direction? I have known people on board ship, total strangers, become such good friends in three or four days as to confide their family secrets to each other—people, at that, who, under ordinary circumstances, were perfect oysters of reticence, and a plain's acquaintanceship usually is equally rapid in growth.

Sut and I watched them ride away, one morning—Miss Carnahan and Teddy—the former, in her tight-fitting riding dress, her cheeks glowing, her eyes sparkling, looking the picture of health and girlish beauty; Teddy's 6 feet of bronzed, robust manhood sitting the saddle as if it had been his cradle, his wide hat stuck carelessly on the back of his handsome head, and his picturesque dress showing of his straight, strong figure to great advantage. They turned at the top of the hill, and waved us a laughing good-by.

"By gad! Scribe, aren't they a stunning team?"

They were, indeed; and I feared they might come to think so themselves, which would be hard for poor Potter, and may be for a certain young lady back in the States, to whom Teddy wrote regularly every Sunday.

Poor Potter, it was plain to be seen, was not enjoying himself hugely. He heartily detested riding, and for guns and fishing tackle he had no use whatever. It is quite likely that he did not altogether approve of his capricious sweetheart's daily expeditions with the handsome and captivating master of arts, who, Sutley informed me, was more than inclined to get into flirtations of the pseudo-desperate character, if, really, he was not somewhat susceptible, which is quite possible. However, the tenderfoot was plucky and gave no outward and visible sign of whatever feeling he may have had in the matter. I was dreadfully sorry for the poor chap, for he was a rattling good fellow—one of the sort who make lots of friends among men, but who are altogether too good to succeed with women to any remarkable extent.

As the days went by, it became more and more apparent that Teddy and the fair visitor were nearing the danger point in their swiftly advancing friendship. "Straws show—" and so do the most insignificant actions—a word, a glance, or even less; and when, at the end of two weeks, Miss Carnahan pleaded for another ten days' stay, and the major and the rest, of course, assented, I knew there were breakers ahead for Potter.

One hot, quiet afternoon, just as Teddy's and Miss Carnahan's horses were brought around in front, where we were all lounging on the veranda, Sut, who had been busy writing, came out and joined us with "Where's my best girl?"

Sure enough, where was Miss Daisy? Everybody asked everybody else, and everybody else disclaimed all knowledge of that young person's whereabouts; so, while the rest of us began scouring the house and stables for her, Teddy and Miss Carnahan mounted and rode away to see if she had not wandered off on the prairie, or up in the hills.

We could not find her, so all the available horses were pressed into service, and we all started out in search of the little one. A sudden inspiration directed me toward a prairie-dog village, at the end of a coule, half a mile away, and I hurried to it.

As I rode out of the coule, the sight that met my eyes almost made my heart stand still. Fifty yards away, standing between two mounds, was little Daisy, and in a circle, surrounding her, were a score of rattlesnakes, all coiled ready to spring, but, for some inscrutable reason, hesitating. Either the child was not alarmed, or else she was too frightened to cry.

I halted short. To keep on was to invite the death of the little one. What could I do? As I sat, half-dazed, I heard the sound of horses' hoofs, and presently Teddy and Miss Carnahan rode up. Unable to speak, I pointed to the scene among the mounds. Miss Carnahan nearly fell from her saddle, and her eyes started. Teddy's face blanched, but his nerves did not desert him. I saw him measure the distance with his eye and look to see if his saddle girths were all right. Then he spoke up hastily:

"There's only one chance, but I'll try it."

There was a bound and a rush as the buckskin flew toward the mounds; then we saw Teddy reach down—there was a flash of white—and in another second the baby was safe in his arms, and the knowing broncho was carefully picking his way out of the prairie-dog village. One chance, Teddy had said. Yes, that was all, and he had won. If horse had stumbled—if he had missed his grasp of the child, or if she, frightened at the sound of approach, had started to run, the result would have been different.

As we rode thankfully homeward I could not help seeing the glances Miss Carnahan occasionally cast at the figure of the gallant Teddy, who hurried on ahead with the child; and I was glad, for Potter's sake, that Teddy did not also see them.

But this incident was not the only one that gave Teddy a chance to raise himself in everybody's estimation. Fortune is understood to favor the brave; certainly she favored Teddy, and that, too, the very next day.

Major Carnahan and his daughter, Potter, Teddy, Sut and the scribe had ridden up the creek to see a bunch of choice cattle; and, having plenty of time to spare, and wishing to show the guests some pretty scenery, we extended our trip several miles farther.

Miss Carnahan and Potter had ridden up the slope on the right to investigate some buffalo wallows, and Teddy had fallen behind a bit to pluck some flowers, when suddenly Sut started and listened intently. From the hills on the east, beyond where Miss Carnahan and Mr. Potter were, a rumbling, rushing sound came, mingled with confused bellowing.

"Stampede!" gasped Sutley. "Hi-i-i! Come away quick!" and he motioned to the couple on the slope, but they did not see or hear him. We started toward them, full speed, yelling at the top of our voices, just as the head of the herd of wild, thirsty cattle appeared, bearing directly toward the unconscious couple at the buffalo wallows. They were coming as only stampeded cattle can come, and there were but a few seconds of time in which to escape.

Presently Miss Carnahan heard us, and glanced up, then seemed to call Potter's attention to the coming cattle. We rode out of the way, noting, as we did so, that the engaged couple were doing likewise. Then something happened that has cost more lives than one. Miss Carnahan's horse was "stampeded"—he balked and fought the bit, but would not stir an inch out of his tracks, while Potter's on the contrary, took the bit in his teeth and tore away at fearful speed, resisting all his rider's efforts to hold him.

Miss Carnahan was just out of the track of the rushing cattle, but every man of us knew that before we could reach her side they would be passing her, and her horse was almost certain to dash into the herd. She realized her danger, and was making every effort to control her horse, but to no purpose.

What we expected happened. As the stream of cattle thundered by Miss Carnahan's horse leaped forward, almost unseating her, and raced directly into the edge of the herd, heading diagonally for the thickest part. Then, while we gazed, too far away to aid, something flew across the slope in front of us, and Teddy, forcing his splendid buckskin to his top speed, followed the stampeded horse.

It seemed hours, but it was only a minute, when it was all over. Teddy, guiding his horse beautifully, overtook the gray before he reached the center of the herd. We saw Miss Carnahan look up in response to his shout, evidently understanding that she was to slip her stirrup; we saw Teddy reach her and encircle her with his arm; and, presently, guided by a master hand, the buckskin, carrying double, gradually worked his way out of the crush and to a place of safety not twenty yards from the bank of the creek, where Miss Carnahan's horse and a score of cattle were crushed to death.

It was a very thankful party that went home carrying Miss Carnahan, who, of course, fainted when the danger was over. The major gripped Teddy's hand in silence, too much overcome to speak his thanks, and we embarrassed him frightfully with our admiration, the last one of the party to shake his hand being poor Potter, who, from the top of a hill half a mile distant, had seen the whole affair, and whose "God bless you, Thayer!" came from a relieved heart. If any more agonizing situation can be conceived for an adoring lover than must have been Potter's, helplessly watching his sweetheart being carried to almost certain death, I have yet to know it. And then, that night, I heard her tell him, meaningly, that she despised a coward!

She understood next day that he was not to blame; but the words had been said, and other words, too. I don't know what these latter were, for Teddy probably spoke them as he carried Miss Carnahan away from the stampeded herd—but it is quite certain that he said something, and that there was sorrow ahead for Potter and the Massachusetts girl (to whom Teddy had not been writing as regularly as usual), unless something happened to prevent.

Just a day or two before the visitors were to leave us, Sutley came in one morning with a very grave face.

"Prof. Loring's got the smallpox," he announced. "What on earth can we do for him?"

Prof. Loring was a naturalist and botanist from an Eastern college, who had, a few weeks previously, come to study the flora and fauna of the Willow Ridge region. He had, with Sut's permission, built a shanty about two miles up the creek, where he lived all alone among his bugs and snakes and lizards, and we had seen very little of him, but that little inclined us very much in his favor.

"He went over in the hills to the Indian camp for some snakes," continued Sut, "and, of course, caught it there. When I knocked this morning he called to me and told me he had the smallpox, and to keep away, but to send a doctor if one was to be had. But, great Scott! there isn't a doctor within fifty miles, for Doc Murray went East last week, and he's the only one at Smithburg."

We all sat silent for a moment. Then Teddy, with much concern, for he had become quite well acquainted with the professor, and liked him, remarked:

"Poor old chap! I don't see what can be done for him."

"Has he," asked Potter, slowly, "no one at all, Mr. Sutley?"

"Not a soul."

"Then I will go over and take care of him. I have studied medicine."

I am sure Miss Carnahan had not spoken to him for two days or more, and I had feared it was all over between them; but when she started up and ejaculated. "Wallace Potter, you shall do nothing of the sort!" I knew and was glad that there was still hope for him and that Massachusetts girl.

Then, while we all knew that Prof. Loring would die unless some one cared for him—anyhow, perhaps—we interposed all sorts of objections. It was Quixotic, wild, utterly foolish, said the major. "Why, the man was a total stranger, and the idea was not to be though of for an instant. Added to the major's objections and those of the rest, were his daughter's efforts to assert her authority, but it was no use. Potter was firm. "It is my duty," he said, simply, "and that's all there is to it."

"Then, Wallace Potter, if you will do it, I shall stay and take care of you." And Miss Carnahan said it as if she meant it, and everyone knew that stay she would.

I don't know what Miss Carnahan and Mr. Potter said to each other during the half hour they were alone together, right after the above conversation, but I know that when he went away after dinner, with his basket of medicines and things, she kissed him before us all, and then went to her

room, where she remained over an hour, joining us, later on, with suspiciously red eyes. I know also that Teddy that evening, overcome by the moonlight or something, proposed to Miss Carnahan, and was kindly, but firmly, refused, and informed that the heart he asked for belonged to Mr. Potter—much to Teddy's after satisfaction, as he informed Sut and myself.

"Because," said the young man, "it would have put me in a deuce of a pickle, and besides I didn't really mean it. It was because she looked so sweet at that moment that I couldn't think of anything else to say, I guess. She's a lovely girl, and no mistake, but—"

And in that simple "but" was conveyed a world of assurance that the little girl in Massachusetts still held the larger portion of Master Teddy's eccentric heart.

It went hard with the unfortunate sick man, and for a time we feared he could not live; but Potter was fighting a good battle and fighting to win, and one morning, when Miss Carnahan and the scribe rode over, as some of us did every day, with food and other necessaries, the glad look on the worn, thin face of the brave nurse told us that the victory was his.

Then Miss Carnahan cried and called him a hero and her dear, darling, brave boy, quite regardless of the presence of the scribe.

"And now," she concluded, "I suppose I'll have to take care of you, just as I knew I should."

And so she did. Potter was ill; he was laid up a few days from nervous prostration. Then came the end of the story—at least, of Miss Carnahan's part. For Potter was pretty weak to travel, and would need good care; so one day the minister came over from Smithburg and performed in the big room of the ranch house a marriage ceremony as binding as the most fashionable kind that obtain in New York—and when our guests went away there wasn't any Miss Carnahan.

It wasn't so very long after that Teddy returned to Massachusetts and found that girl still waiting for him.—Romance.

A Pretty Writing Pad.

A pretty writing pad or blotter, described by *Harper's Bazar*, gives a suggestion for an inexpensive gift.

The foundation was a square of heavy pasteboard covered with a cotton fabric, showing a design of scarlet poppies and green leaves on a cream ground. At each of the four corners, where silver, leather or china corners are used, were corner pieces of scarlet satin, the color of the poppies, interlined with some stiff material that kept the satin perfectly firm. Into the lower righthand corner was slipped a piece of white blotting paper, cut large enough to extend two-thirds of the distance to the top of the pad and two-thirds of the distance across the bottom. The upper lefthand corner of the blotting paper was cut off in a slanting direction, and through two slits in the paper was passed a bit of poppy-colored satin ribbon, the width next to that known as "baby ribbon," and tied in a bow. The back of the pasteboard was covered with plain scarlet sateen.

The colors could be varied to suit the room in which the pad would lie, and if the maker's time and skill permitted very dainty ones could be prepared of the art linens, embroidered diagonally across the upper lefthand corner with the future owner's initials; or white linen might be used, embroidered with small sprays of forget-me-nots, pink rosebuds, violets or maidenhair ferns, the blotting paper of the flower chosen, the corner pieces of art linen to match, with the initials embroidered in white on one of them.

If any touch my friend or his good name,
It is my honor and my love to free
His blasted fame
From the least spot or thought of blame.

"JOHN, the Joblot's house is much bigger than ours."

"Yes, my dear; so is their mortgage."

July.

O queenly month of indolent repose!
I drink thy breath in sips of rare perfume—
As in thy drowny lap of clover-bloom
I nestle like a dowsy child and doze
The lazy hours away. The zephyr throws
The shifting shuttle of the summer's loom,
And weaves a damask-work of gleam and loom.
Before thy listless feet the lily blows
A bugle-call of fragrance o'er the glade;
And, wheeling into rank, with plume and spear,
Thy harvest-armies gather on parade.
While, faint and far away, yet pure and clear,
A voice calls out of alien lands of shade—
"All hail the Peerless Goddess of the year."

—James Whitcomb Riley.

Renovating.

Ostrich feathers that have become limp may be greatly improved by dampening them and shaking them over the fire. Wrinkles which have formed at the bend of the elbows, may be removed by steaming. An excellent cleansing preparation is made with a desertspoonful of pearline and a generous half cup of hot water, mixed smooth and allowed to come to a boil. Keep it on the commode or bureau for emergencies. Apply with a damp cloth, rubbing until the spot disappears, after which rub the spot with the cloth wrung out of clear water. This is also excellent for cleansing ribbons and laces, adding enough to the warm water to make it slippery to the touch. Lace that has been laundered will look like new if wound upon a large glass bottle to dry. Ribbon should be ironed by see-sawing it under a hot iron, taking an end of the ribbon in each hand and moving it back and forth quickly. If ironed in the old way it has a tell tale gloss. These little duties mean much when a girl must economize. They help her to make a good appearance with limited means.

Potato Flour in Austria.

Consul F. W. Hahin, at Reichenberg, reports successful results to the Austrians in the manufacture and use of potato flour. This article is a novelty to most Americans. It is used as an ingredient in many lines of bakery and confectionery work where we employ wheat flour; and as cornstarch is unknown in Austria, potato flour must do duty in cases where cornstarch would be used in the United States. This flour makes a beautiful white and light cake, and is better than cornstarch in lines where this would be used, because of the absence of the peculiar taste. The potatoes after being washed are placed on rapidly rotating machines set with teeth, and are crushed in such a manner that the starch is separated from the cells that contain it. Water is freely used in this process, sweeping away the extracted starch and carrying it into vessels, to the bottom of which it settles. The starch is then put through a refining process to remove all foreign particles.

THE books which help you most are those which make you think the most. The hardest way of learning is by easy reading; every man that tries it finds it so. But a great book that comes from a great thinker—it is a ship of thought, deep freighted with truth, with beauty too. It sails the ocean, driven by the winds of heaven, breaking the level sea of life into beauty where it goes, leaving behind it a train of sparkling loveliness, widening as the ship goes on. And what treasures it brings to every land, scattering the seeds of truth, justice, love and piety, to bless the world in ages yet to come. —Theodore Parker.

YOUNG MISTRESS—I don't see why you should leave me so suddenly. I am sure I have done all I could to help you with the housework, and I have done all the cooking.

Maid—Yes'm; that's what's the matter.

"What is?"

"I can't stand y'r cookin'."

"WHAT'S an empty title, pa?"

"An empty title is your mother's way of calling me the head of the house."

DOMESTIC ECONOMY.

Hints to Housekeepers.

The trying yellow spots so often left by sewing machine oil on white goods may be removed by rubbing the stains with a cloth wet with ammonia before washing with soap.

To remove paint from window glass, make a strong solution of potash, saturate the spots of paint with this, and let it remain until nearly dry; then rub off with a woollen cloth.

In order to clean bronze the article should be immersed in boiling water, then rubbed with a piece of flannel dipped in yellow soapsuds, and dried with a soft cloth and chamois leather.

To make a mustard plaster, mix the mustard with the white of one egg until it forms a smooth paste, then spread it between two thicknesses of soft muslin before placing it upon the affected part.

Alabaster is usually cleaned with a little warm soap and water and a brush, or with warm water to which a few grains of carbonate of soda have been added. In either case it is necessary to rinse the alabaster in clean water.

One of the best ways of utilizing cold potatoes is called, according to the place where they are served, plain hashed, browned creamed potatoes, Delmonico potatoes, or potatoes au gratin. To four large, cold potatoes, chopped fine, is allowed a pint of cream sauce, to which has been added four tablespoonfuls of grated cheese. Mix the potatoes with sauce, turn into a baking dish, and brown in a quick oven.

Marble may be easily cleaned by the application, for twenty-four hours, of the following mixture: A quarter of a pound of soft soap, the same quantity pounded whiting, one ounce of common soda, and a small piece of stone-blue boiled together for about twenty minutes, and while hot rubbed over the surface of the marble. It must be cleaned off with soap and water, and then the marble will require polishing with a rough flannel.

A recipe for using pieces of dry bread is a bread-and-butter custard. Beat two eggs, without separating, until light. Add four tablespoonfuls of sugar and a pint of milk, mix, and add a grating of nutmeg. Turn into an ordinary baking dish, cover the top with buttered bread, butter side up. Bake in a moderate oven, as you would ordinary custard, until the handle of a spoon can be put into the center and come up free from milk.

"It is a mistake," said a physician, during the recent period of extreme heat, "to eat too little in hot weather, just as it is a mistake to eat too much and the wrong things. Extreme hot weather is in itself very exhausting, and plenty of nourishment is needed to sustain the system. This nourishment should be of a simple and easily digested kind. For myself I find that milk and vichy taken at regular intervals of two hours, sipped rather than gulped down in a single draught, gets me through best on a very hot day, from breakfast to a six o'clock dinner. Then I take care to have a fairly hearty meal."

Awning stripes are made nowadays in a great variety of styles, varying in colors and combinations, and many a sightly building has been still further adorned or made picturesque by the placing upon it of awnings judiciously selected. There are stripes with high colors and striking effects that may harmonize well with the buildings upon which they are placed, but as pleasing an effect as any seen recently was that produced on a house that was ivy clad by awnings of the simplest kind made from stuff having alternate stripes of white and green, the stripes not very wide and of uniform width, and the green in the stripes as near as might be matching the ivy green.

In should be remembered that when cold asparagus is served as a salad, it should be really cold and not simply not warm. At a luncheon recently the asparagus, which was of the fine, large, succulent vatiety—the sort that is deep green in color—was served in a block of ice. The block, which was a little longer than the stalks, had been slightly hollowed out with a heated iron and a shallow, nearly flat glass dish fitted in. On this lay the asparagus. To have laid the vegetable on the ice would have perhaps frozen it and affected its fine flavor. A French dressing was handed round with the asparagus.

Domestic Hints.

RICE BLANC MANGE. — Put four ounces of rice in one quart of sweet milk, add a little lemon peel and cinnamon and simmer slowly until done. Put into a mould, when cold turn out on a dish, place any kind of jam around it and serve with cream and sugar.

SWEETBREAD PATTIES.—Soak sweetbreads in cold water, remove pipes and membranes and cook in boiling salted water with one tablespoon lemon juice for twenty minutes, then plunge into cold water to harden. When very cold, break into small pieces, heat them in a rich cream sauce and serve in puff paste shells or in biscuit boxes.

ICE CREAM CAKE.—To the whites of five eggs, slightly beaten, add two cups of sugar, one cup of butter, one cup of milk, three cups of flour, three teaspoonfuls of baking powder and one teaspoonful of vanilla. Bake in layers, and use as a cream two cups of sugar and one-quarter cup of water, the whites of two eggs, beaten lightly. When the syrup strings, pour on the whites and beat as fast as possible. Flavor with vanilla and spread between the layers and on the top.

TOMATO JELLY SALAD.—In a saucepan put one-half of a can of tomatoes, one small bay leaf, four cloves, one blade of mace, one-half of a teaspoonful of salt, one-quarter of a teaspoonful of paprika and ten drops of onion juice. Simmer fifteen minutes. Add one-third of a box of gelatine which has been soaked in one-third of a cupful of cold water, stir until dissolved and press through a fine sieve. Add two tablespoonfuls of tarragon vinegar and pour into wetted moulds. When firm, turn out on lettuce leaves and garnish with mayonnaise.

OMELET SOUFFLE. — Separate the whites and yolks of six eggs and put three of the yolks aside to use for some other purpose. Beat the remaining yolks with three tablespoonfuls of powdered sugar until light and thick. To the whites add a pinch of salt and whip until stiff and dry. Over the whites pour the beaten yolks, sprinkle over one teaspoonful of lemon juice or vanilla and cut together, mixing with as few strokes as possible so as not to destroy the lightness. Heap on the dish on which it is to be served, dust thickly with powdered sugar and place in a very hot oven until crusty on top, well puffed up and lightly colored. This should not take over eight minutes or it will fall. Serve immediately.

LEMON CAKE.—A delicious lemon cake is made as follows: Put one cup of sugar and one-half cup of butter in a bowl and blend them to a cream; beat the yolks and whites of two eggs separately and add them; add the grated rind and the juice of one lemon and stir in with the other ingredients; pour in one-half cup of sweet milk and stir it in well; mix two heaping teaspoonfuls of baking powder through one and one-half cups of flour and stir it through the mixture until the whole is perfectly smooth and free from lumps. Bake this in three jelly-cake tins. For the filling to put between the layers, beat the whites of two eggs to a stiff froth, with ten tablespoonfuls of powdered sugar beaten in slowly and the grated rind and the juice of one lemon added and stirred in slowly. While the cake is still warm spread each layer except the top one with the filling. Make a soft frosting of the white of one egg, well beaten, and four tablespoonfuls of powdered sugar; dust the top layer slightly with flour and spread the frosting over with a knife.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 26, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Sept.	Dec.
Wednesday	71 @70¼	72¾@72
Thursday	70⅜@71⅜	72⅛@73⅛
Friday	71⅛@69⅞	72⅞@71¾
Saturday	71 @70⅜	72⅝@72⅜
Monday	71⅛@70½	73 @72½
Tuesday	70⅛@71⅜	72⅛@73¼

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 8⅝d	5s 10½d
Thursday	5s 8¼d	5s 10 d
Friday	5s 8⅜d	5s 10¼d
Saturday	5s 8⅜d	5s 9⅞d
Monday	5s 9¼d	5s 10⅝d
Tuesday	5s 9 d	5s 10⅜d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 13⅞@1 14⅜	——@——
Friday	1 13⅞@1 13⅛	1 17 @——
Saturday	1 12⅝@1 13¼	1 16½@1 17
Monday	1 13⅜@1 13	——@——
Tuesday	1 13⅝@1 12⅞	——@——
Wednesday	1 13⅜@1 13¼	——@——

Wheat.

The market for spot wheat or for immediate deliveries remains practically the same as a week ago. While there has been an absence of strength, buyers have not succeeded in reducing quotable values, although they have operated very sparingly and have, so far as was within their power, given the market every chance to droop. Chicago futures are very little lower than a week ago, and the same remark applies to Liverpool. The weakness in the speculative markets abroad was confined mainly to the remote options. On the local Call Board there was a decline of about 1¼c per cental in December wheat, but a portion of this was subsequently recovered.

The bear interest is likely to have control of the market most of the time during the next few months for several substantial reasons, foremost among them being the fact that supplies throughout the Northern hemisphere, and more particularly in the United States and Europe, are still largely in the hands of the producer. Another cause for weakness at this particular time is the large quantity of grain known to be in weak hands, and on which there is certain to be more or less selling pressure during the next few months. Still another reason for wheat values being depressed, especially on this coast, is that in consequence of the desire to unload, which is being manifested by so many holders, there is increased demand for transportation, and with ships in light supply as at present, freight rates are being crowded upward. Ships in the wheat trade of this coast are today commanding fully five shillings more per ton than a year ago and ten shillings more than two years ago, which makes a difference of $1.25 to $2.50 per ton against the producer. A sailing vessel came into port the other day which had been chartered prior arrival at a comparatively low rate—27s 6d—making a loss to the owners and a profit to the charterer of not less than $2500. And this was a very small ship. Had the vessel been one of the large carriers, the difference would have amounted to about $5000. With ships clearing at the rate of six or eight a week, as is frequently the case in busy times, it can be readily seen that it makes a great difference in the matter of high or low freights as to the amount of money which is likely to find its way into the hands of the wheat grower. Bad weather for crops was again reported the past week in a large area of the wheat section east of the Rockies, but it had little effect on the market aside from temporarily causing a little firmness in speculative values. When buyers succeed in getting a considerable portion of the crop in their hands, a firmer market and a recovery of prices may be looked for, but until such time there is poor prospect for the development of any special strength.

California Milling	$1 07½@1 12½
Cal. No. 1 shipping, alongside	1 05 @1 06¼
Oregon Valley	1 05 @1 10
Walla Walla Blue Stem	1 10 @1 15
Walla Walla Club	1 05 @1 12½
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.14⅜@1.12⅞.

May, 1900, delivery, $1.16½@1.17.

Wednesday, at regular noon session of the Call Board, December, 1899, wheat sold at 1.13⅜@1.13¼; May, 1900, ——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s11d@6s11½d	6s0d@6s0½d
Freight rates	26¼@27½s	32@—s
Local market	$1.25@1.30	$1.05@1.07½

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The same easy tone prevails as previously noted, supplies being fairly liberal and demand slow. A cargo of 18,548 barrels flour, valued at $64,000, went afloat for Great Britain, and is the first shipment made in that direction for many months. The movement to Asia has been lately considerably below the average, one China steamer last week taking less than 1800 barrels, while in the past it has not been extraordinary for 12,000 barrels and more to go forward to China by one steamship.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

While quotable rates have been very materially reduced, the market has been less active than for a fortnight or more preceding, and full current quotations have been more difficult to realize. Shippers' most urgent requirements seem to have been about satisfied for the time being, but there is little doubt that purchasing for export would still be fairly brisk, had it not been for the disposition to crowd values upward, and beyond points which shippers could see their way clear to pay. It is stated that exporters were being worked by some of their interior agents, the latter taking in barley on their own account and holding it for an advance, instead of securing the grain for the shipper whom they represented and from whom they had orders to purchase. While this may cause a lull of a few weeks in the export trade, the outward movement will very likely be renewed as soon as buyers on foreign account can get their grievances adjusted and be able to operate without having the market jump away from them. Comparatively good prices have been realized on the barley which has thus far gone outward this season, the figures being relatively better than current on wheat. The movement has been mostly of the ordinary variety of Brewing, shippers claiming that Chevalier is not receiving the call of previous seasons, and bids for the latter variety are not on a par with the prices paid in former years.

Feed, No. 1 to choice	92½@ 95
Feed, fair to good	90 @ 92½
Brewing, No. 1 to choice, new	95 @1 00
Chevalier, No. 1 to choice	1 17½@1 25
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Selier 1899, new, 88¼@85c.

December, 1899, delivery, 90⅛@86¾c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 87⅝@88¼c; seller 1899, new, 85¼@85⅛c.

Oats.

Arrivals of this cereal have been lately quite free of new crop product, giving the market more than was needed for the immediate demand, and causing a weak tone to prevail, especially for common to medium grades of both white and colored oats, present supplies being largely of these descriptions. Surprise oats are in such light stock as to be hardly quotable, and the same remark applies with about equal force to Grays, these coming principally from the North, where the crop is not yet ready to be marketed.

White Oats, fancy feed	1 30 @1 35
White, good to choice	1 17½@1 25
White, poor to fair	1 10 @1 15
Gray, common to choice	1 25 @1 30
Milling	1 30 @1 40
Surprise, good to choice	1 35 @1 45
Black Russian	1 10 @1 15
Red	1 07½@1 15

Corn.

There are fair supplies of Large Yellow and Large White, mainly the former, imported from the East, but there is little of any other kind now offering. Domestic Small Yellow is in very limited stock and must continue so for some months to come. Values remain quotably about as last noted. Quotations represent in the main jobbers' prices, stocks in this center having been for some time past almost wholly in the hands of millers and small dealers.

Large White, good to choice	1 12½@1 17½
Large Yellow	1 10 @1 12½
Small Yellow	1 40 @1 45
Eastern Mixed	1 07½@1 10

Rye.

Market does not show much life. Neither buyers nor sellers are numerous. Values remain without appreciable change.

Good to choice, new	97½@1 02½

Buckwheat.

Much the same conditions prevail as previously noted. Supplies on market are practically exhausted.

Good to choice	2 50 @ —
Silverskin	— @ —

Beans.

There has been considerable of a flurry the past week in the market for Pink beans. Although it has been no secret that stocks of this variety have been of rather light volume for months past, a number of buyers seem to have just come to a realization of this fact, and all want Pink beans, bidding considerably higher figures than any one pretended to ask a few weeks ago. As a result, a small boom is on for this variety, and not a few are predicting that prices will touch still higher levels before zenith is reached. This may or may not be the case. If the writer had Pink beans he would not postpone selling an indefinite period on the present kind of a market. Observations of many years have demonstrated that it is generally not a very bad time to sell when an article is in active request, and a good time to hold when an article goes begging for custom. Market for other colored beans is moderately firm at previous rates. Limas and all white varieties are being steadily held, with no likelihood of prices receding during the balance of the season.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 70 @1 80
Butter, small	—— @——
Butter, large	—— @——
Pinks	2 30 @2 37½
Bayos, good to choice	1 85 @1 95
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	4 15 @4 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Recent advices by mail from New York give the following report of the bean market in that center, prices quoted being per 60-lb. bushel:

A little of the bullish feeling that was shown a week ago has passed away, and the market has become more quiet, though without material change. Receipts have been one-third larger, and the heavy rains in the country have improved the prospects of the growing crop. Marrow beans still feel the absence of export demand, as the jobbing trade in July is never a factor of much importance. Most of the sales effected during the week were on the basis of $1.55 for strictly choice stock, but the tone is a little easy at the close and some of the best lots can now be bought 2½c less. Medium and Pea have ruled quite steady, the former selling at $1.42½ for best quality, and the latter variety at $1.40. There was an effort early in the week to work the price of Red Kidney up to $1.72½, and a few sales were reported at that, but the demand proved to be very moderate and most of the export business was done at $1.70; on that basis, however, there is rather a confident feeling. White Kidney scarce and firm. Yellow Eye steady at the recent advance. Turtle Soup dull. California Lima have advanced 10c under very reserved offerings and some buying for current use; sales have been made at $2.75. Green peas have ruled firm.

Dried Peas.

There is little doing and little stock upon which to operate. Market is firm for Green dried, but for the Niles variety prices are not being so well sustained.

Green Peas, California	2 30 @2 40
Niles Peas	2 00 @2 10

Wool.

Trade in this line is less active than for some weeks preceding, and market will likely rule quiet for several weeks to come, or until the Fall clip begins to put in an appearance in quotable quantity. The lack of activity is not for lack of strength or absence of buyers, as the market is fully as firm as at any previous date this season, and buyers are willing to operate at prevailing rates, but there are very few wools now offering and stocks afford decidedly poor selections. A few early clippings of Fall lambs have been already received, but it will be several weeks before there will be sufficient Fall on market to justify the attention of wholesale buyers or to enable the giving of quotations. That desirable Fall wools will meet with prompt attention at relatively as good figures as have been lately current on Spring fleeces altogether probable.

SPRING.

Humboldt and Mendocino	15 @18
Northern Sacramento Valley, free	12 @14
Northern Sacramento Valley, defective	9 @11
San Joaquin foothill, free	10 @12½
San Joaquin foothill, defective	8 @10
San Joaquin plains and southern, 7 mos.	—@—
San Joaquin plains and southern, 12 mos.	7 @10
Nevada, as to condition	10 @14
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @18

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	—@—
Plains, defective	—@—

Hops.

Beyond light stocks in the hands of jobbers, the market is practically bare of offerings, and there is consequently little or no opportunity for the transaction of spot business. The small quantities changing hands are going within range of unchanged figures. Prospects for coming crop continue favorable for a good market, perhaps not so high as some anticipate, but at least fairly profitable figures are almost certain to be obtained.

Good to choice, 1898 crop	15 @17½

The following review of the hop trade comes through by recent mail from New York:

Quite a number of hops have been cleared for England during the past two weeks, but they represent mostly consigned lots of old Pacifics on through shipments from the coast. Very little new business has been accomplished, and it does not look as if exporters would buy much stock if they could get it, in the face of the favorable crop reports from Europe. Brewers have not shown much interest of late, nor has there been any trading to speak of between dealers. The dullness has tended to make rather an easy feeling, with a slight yielding in price in instances. We revise quotations a little, but the pressure to sell is not strong, the stocks here and in the interior being very moderate for the reason of year. We note a little business in the country in old hops, and some of the '98 crop has also changed hands, the latter at 10@12c. Rains throughout the State have helped the vines, but the growth is generally reported weak, and the yards do not look as well as usual at this time of year.

Hay and Straw.

Arrivals of hay have been lately decidedly heavy, causing a weak and demoralized market. Buyers as a rule have been timid, refusing to operate beyond most immediate needs. The situation was decidedly discouraging for the producing interest, stocks being heavier than required, despite the fact that values were at a low range. It is likely, however, that purchasers will soon be convinced that values have touched bedrock for the season and will begin to store for the Winter. When buying for the future commences, a more stable market may be expected. Straw is not coming forward in such excessive quantity as hay, but there is an abundance for the demand.

Wheat	7 00@ 9 50
Wheat and Oat	7 00@ 9 00
Oat	7 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	——@——
Compressed	8 00@10 50
Straw, ₱ bale	25@ 40

Millstuffs.

Values for most kinds of mill feed have ruled steady since former review, with no excessive offerings of any description. Demand was not particularly brisk. Bran received perhaps more attention than any other kind herewith quoted.

Bran, ₱ ton	16 00@16 50
Middlings	17 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	20 50@21 00
Cornmeal	24 00@ ——
Cracked Corn	25 00@ ——

Seeds.

The same featureless market as before noted continues current, owing to exceedingly light stocks at present. According to recent advices, there will be a fair crop of Mustard Seed. Arrivals of the same are looked for in quotable quantity in about sixty days.

	Per ctl.
Mustard, Trieste	3 50@——
Mustard, Yellow	2 50@3 00
Flax	——@——
	Per lb.
Canary	3 @3½
Rape	3 @4
Hemp	4¼@4½
Alfalfa, Utah	--@ —

Bags and Bagging.

The Grain Bag market has been strong most of the time since last review and has shown considerable activity, liberal orders having been filled in this center, not only for California, but also for Oregon and Washington. Wool Sacks are receiving some attention on account of fall clip, with offerings ample for the requirements. Fruit Sacks are moving in a moderate way at unchanged values.

Calcutta Grain Bags, buyer July	—@—
San Francisco Grain bags, 22x36, spot	6 @—
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5¼@ 6

Hides, Pelts and Tallow.

Heavy wet salted Hides quotably higher. Dry Hides continue at the same comparatively high range as lately current, owing to light supplies. Pelts are commanding about same figures as for some weeks past, but market cannot be termed very strong. Tallow is selling at unchanged rates, with demand only fair.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	10@10½	9@ 9½
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

As the season advances the lightness of the crop becomes more and more apparent. There is a fair demand, and values are being in the main quite well maintained. In a small way as high as 8c has been realized for some Extracted of superior quality. Choice Comb is scarce and in fair request.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11 @11½
Amber Comb	8 @10

Beeswax.

Not much of this article offering, nor are there likely to be heavy supplies in the near future. Former values remain in force.

Good to choice, light, ₱ lb	26½@27
Dark	25 @26

Live Stock and Meats.

Beef is commanding steady rates, but this is more due to the light supplies than to active demand. Veal is scarce and high. Mutton is tending in favor of the selling and producing interest, with prospects of firmer rates soon being realized. Hog market shows strength, and is likely to continue in much the same satisfactory condition for sellers for several weeks to come.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5⅞@ 6
Hogs, small, fat	5¾@ 6
Hogs, large bard	5⅝@ 5½
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	10 @11
Veal, large, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8 @ 8½

Poultry.

With further free arrivals of Eastern product, three carloads of live poultry arriving, in connection with some Eastern dressed, the market for domestic has been given little or no opportunity to develop any firmness. Large Eastern Hens were offered at $5.50@6.00 per dozen. Extra large and choice young stock was the only sort sought after. Some sales of the latter kind were made above quotations.

Turkeys, young, ₱ lb	15 @ 17
Turkeys, live hens, ₱ lb	11 @ 12½

Turkeys, live gobblers	11	@	12½
Hens, Cal., ₱ doz	4 50	@5	50
Roosters, old	4 00	@4	50
Roosters, young, (full-grown)	5 50	@6	50
Fryers	4 00	@4	50
Broilers, large	3 00	@3	50
Broilers, small	2 50	@3	00
Ducks, ₱ doz	3 00	@5	00
Geese, ₱ pair	1 12½	@1	25
Goslings, ₱ pair	1 25	@1	37½
Pigeons, Old, ₱ doz	1 25	@1	50
Pigeons, Young	1 50	@1	75

Butter.

There has been an easier market for high-priced creamery product, supplies of this sort proving larger than custom could be secured for at the advanced figures estahiished the previous week. Medium grades were in fairiy active request where ohtalnahle at reasonable rates, and stocks of this sort did not show much accumulation.

Creamery extras, ₱ lb	20	@21
Creamery firsts	19	@—
Creamery seconds	18	@—
Dairy select	18	@19
Dairy seconds	16	@17
Dairy, soft and weedy	—	@—
Mixed store	13	@14
Creamery in tubs	18	@20
Pickled Roll	18	@20
Firkin, Cal., choice to select	18	@20
Firkin, common to fair	15	@16

Cheese.

Higher figures have been established for this commodity, with market firm at the advance. There are no heavy stocks. Demand is good. Market bids fair to he favorable to producers for some months to come.

California fancy flat, new	10	@—
California, good to choice	9	@ 9½
California, fair to good	8	@ 8½
California Cheddar		—@—
California, "Young Americas"	9	@11

Eggs.

Choice to select eggs, direct from hennery or ranch, were not in large receipt, and such brought tolerably firm figures, in some instances above quotahle rates, but for ordinary qualities the market was dull and weak. Eastern were in ilherai supply and were offered at comparatively low rates. Buyers content with other than most select ran mainly on imported.

California, select, large white and fresh	22	@23
California, select, irregular color & size	19	@21
California, good to choice store	17	@19
Eastern, as to seotion and grading	16	@19
Eastern, cold storage	—	@—

Vegetables.

Nearly all vegetables in season were in liheral supply and went, as a rule, at figures quite favorahle to the consumer. Onion market showed a iittle more firmness, and it looked as though hedrock prices for the same had been reached. Tomatoes at latter part of last week were in light receipt and higher, but supplies have since increased, with prices easier.

Asparagus, fancy, ₱ box		—@	—
Asparagus, No. 1, ₱ box	1 50	@2	00
Asparagus, common to fair, ₱ box		50@	75
Beans, Wax, ₱ lb		3@	3½
Beans, Vacaville, String, ₱ lb		2½@	3½
Beans, Los Angeles, String, ₱ lb		—@	—
Cabbage, choice garden, ₱ 100		50@	60
Cauliflower, ₱ doz		50@	—
Corn, Alameda, ₱ crate	1 00	@1	50
Corn, Green, ₱ doz		7½@	12½
Corn, Berkeley, ₱ crate		60@	85
Cucumbers, Alameda, ₱ large box		20@	30
Cucumbers, ₱ small box		—@	—
Egg Plant, ₱ box		75@	1 00
Garlic, new, ₱ lb		2½@	3
Mushrooms, Buttons, ₱ lb		—@	—
Mushrooms, wild, ₱ box		—@	—
Onions, Yellow, good to choice, cental		75@	85
Onions, New Red, ₱ cental		—@	—
Peas, Sweet, Garden, ₱ lb		3@	4
Peas, common, ₱ lb		1½@	2½
Peppers, Green Chile, ₱ box		30@	60
Peppers, Bell, ₱ large box		60@	1 00
Rhubarb, ₱ box		—@	—
Squash, Bay, ₱ large box		15@	30
Squash, Marrowfat, ₱ ton	10	00@15	00
Squash, Summer, ₱ small box		15@	25
Tomatoes, Bay, ₱ large box	1	00@	1 25
Tomatoes, ₱ small box		20@	40

Potatoes.

The market has been more active than during previous week, and has heen less favorahle to huyers than noted at date of last review. Some fancy qualities are commanding in a smaii way an advance on quotable rates, but on the other hand, there is ordinary stock offering which will not hring lowest figures below noted.

Burbanks, River, ₱ cental	—	@	—
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	—	@	—
Early Rose	1 25	@1	40
Garnet Chile	1 15	@1	30
Burbanks, ₱ cental	1 15	@1	40
Sweet River, ₱ cental	—	@	—
Sweet Merced	—	@	—

The Fruit Market.

Fresh Fruits.

The market for the principal varieties of deciduous fruits remalned close to the general condition of previous week, neither tone nor quotahle vaiues showing very radical changes. Apricots continued in request at good figures, although the season for this fruit is nearly ended. Not only did choice to select seli well, hringing $50@60 per ton, the iatter figure in a small way for very select, hut most ordinary stock, which in some previous seasons would have been unsaiahle, found custom at some figure, and the price was as a rule relatively as high as for very hest, quality and size heing duly considered. Some very trashy stock, hardly hetter than hog food, went for pie fruit at $20 per ton. In market for most other kinds of fruit, however, low grades did not receive much attention. This was the case with Apples, Peaches, Pears and Plums. Especially were common Appies in excessive receipt, while a strictly choice apple, such as a fine Gravenstein, four tiers to the hox, was in fair request at $1 per hox, and not many of this description were to be had at the figure named. Peaches, Plums and Prunes whlch were desirahle for shipment or for canning did not lack for custom at current rates, and when particularly desirahle hrought in some instances slightly higher figures than were quotahle. Bartlett Pears whlch could be justly termed high grade were hardly ohtainahle, even in a small way. What would ordinarily be ciassed as good Bartletts, not to mention choice, did not make much of a showing, and hrought stiff prices. Berries of nearly all kinds in season went at generally easy figures, although receipts were not particuiarly heavy.

Apricots, choice Royal, ₱ ton	50	00@	—
Apricots, Royal, ₱ box		50@	75
Apricots, Pringle, ₱ box		—@	—
Apples, fancy, ₱ 50-lb. box		—@	—
Apples, good to choice, ₱ 50-lb. box		75@	1 00
Apples, Green, common to fair, ₱ 50-lb. box		30@	50
Blackberries, ₱ chest	3	50@	4 00
Cantaloupes, ₱ crate	2	00@	3 00
Cantaloupes, Nutmeg, ₱ crate	1	25@	1 75
Cherries, Black, ₱ box		—@	—
Cherries, Red, ₱ box		—@	—
Cherries, Royal Anne, ₱ box		—@	—
Cherries, White, ₱ box		—@	—
Crabapples, ₱ small box		35@	50
Currants, ₱ chest	5	00@	6 00
Figs, Black, 2-tier box		75@	90
Figs, Black, ₱ drawer		35@	50
Gooseberries, ₱ lb		—@	—
Gooseberries, ₱ 10-lb box		—@	—
Grapes, Black, ₱ crate		75@	1 00
Grapes, Fontainebleau, ₱ crate		60@	75
Grapes, Seedless, ₱ crate		—@	—
Logan Berries, ₱ chest	7	00@	8 00
Nectarines, Red, ₱ box		60@	75
Nectarines, White, ₱ box		35@	50
Peaches, fancy wrapped, ₱ box		50@	75
Peaches, ₱ box		20@	50
Pears, Bartlett, ₱ ton	35	00@50	00
Pears, Bartlett, ₱ 40-lb. box, wrapped		65@	1 25
Pears, common, ₱ basket		25@	40
Pears, ordinary, ₱ box		25@	60
Plums, large, ₱ ton	20	00@25	00
Plums, large, ₱ crate		50@	75
Plums, ₱ box		25@	50
Plums, Cherry, ₱ drawer		—@	—
Raspberries, ₱ crate		—@	—
Raspberries, ₱ chest	3	50@	6 00
Strawberries, Longworth, ₱ chest	4	00@	5 00
Strawberries, Large, ₱ chest	2	00@	3 00
Watermelons, ₱ 100	6	00@15	00
Whortleberries, ₱ lb		8 @	10

Dried Fruits.

The conspicuous feature of the dried fruit market at present is the continued light arrivals and offerings of Apricots, and the steady hardening of values for the same, despite the predictions loudly advanced early in the season hy some would-he manipulators that the reverse would he the case. They desired the reverse, but were disappointed, and in some instances are losers financially, in consequence of having made a wrong guess at the market. Prices have heen marked up within the week half a cent to a cent, and there are no heavy quantities offering at the advanced figures. Advices from Southern California report 10c now asked for choice, and in the middle portion of the State there are no first-class 'cots now obtainahle in noteworthy quantity under 10½@11c. Fancy Royals and Blenheims, which could he made to do service as Moorparks, are being held above quotable rates, with prospects of commanding in a limited way what may he properly termed stiff prices. Peaches are not coming forward as freely as many anticipated, despite the large crop, and the iow prices predicted for this fruit may not he estahlished. Choice Peaches are commanding on the present market 8@8½c, but if there were heavy offerings from growers these figures could not be maintained. Nectarine market will prohahly open at 6½@7½c, hut nothing in the way of sales has been so far reported in this fruit. Appies are ruling fairly steady, with very light spot supplies. The Prune market is showing a hetter tone. Old stock is meeting with more attention, and the outlook for coming crop is more promising, as to values likely to rule, than it was earlier in the season. Prospects are good for Santa Clara 4's, new crop, hringing 3½c, 40's, 50's and 60's 6, 5 and 4c, and outside growths corresponding figures. Foreign huyers are already in the field. Oregon and Washington will not he as heavy competitors as last season.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	9½	@10½	
Apricots, Royal, fancy	11	@12	
Apricots, Moorpark	12	@13	
Apples, in 50-lb. boxes, rings, pressed, fancy		—@—	
Apples, 50-lb. boxes, rings, pressed, fair to good	8	@—	
Figs, White, fancy pressed		—@—	
Peaches, unpeeled, good to choice	7	@ 8	
Peaches, unpeeled, fanoy		—@—	
Peaches, peeled, in boxes		—@—	
Pears, unpeeled Bartletts, halved, fanoy		—@—	
Pears, halved, unpeeled Bartletts		—@—	
Pears, quartered, unpeeled Bartletts		—@—	
Plums, pitted		—@—	
Prunes, in sacks, 40—50's	7	@—	
50—60's	4¾	@ 5	
60—70's	3¾	@ 4	
70—80's	3	@ 3¼	
80—90's	2¾	@ 3	
90—100's	2½	@ 2¾	
110—130's	2	@ 2¼	
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	3½	@—	
4 sizes San Joaquin and Northern	3	@—	
Prunes, Silver	4	@ 7	

COMMON SUN-DRIED.

Apples, sliced	4	@ 6
Apples, quartered	4	@ 6
Figs, Black	2½	@ 3
Figs, White		—@—
Peaches, unpeeled		—@—

The dried fruit market in the East, according to recent advices hy mail from New York, is reported as follows:

There has been a somewhat better jobbing demand for evaporated apples this week, and with stocks pretty well reduced tone is slightly stronger and prices show a fractional advance. There is no export demand, however, and Canadian fruit in bond is offered very low, one car of prime selling down to 6½c. Later crop reports indicate a larger yield of apples than generally expected heretofore and the advance in futures has now been checked, with tone weaker at the close, prime wood-dried being offered for October and November delivery at 7½c, chops at 2½c and waste at 1¾c without attracting attention, though a large quantity of stock has been sold with many recent sales at the above figures. Nothing doing in chops or waste for spot delivery but choice dry stock is held steadily at full late prices; anything wet or defective could be picked up very low. Raspberries firm and higher. Huckleberries also held firmly. Blackberries weak and lower. Cherries show a decline owing to the offering of new fruit for near delivery at 9c; no new cherries, raspberries or other fruit arriving. California fruit has met a fair demand.

Apricots, Cal. Moorpark, 1898, per lb	14	@16	
Apricots, Cal. Royal, 1898, per lb	13	@14½	
Peaches, Cal., 1898, unpeeled, per lb	9	@12	
Prunes, Cal., 1898, per lb	3	@ 8½	

Raisins.

Former values are heing maintained. There is a moderate johhing trade, principally in 3-crowns. Suitanas are practically out of stock.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—@—	
Dehesa Clusters, per box	—@—	
Fancy Clusters, per box	—@—	
London layers, 3-crown, 20-lb box	—@1	20
London layers, 2-crown, 20-lb box	—@1	10
Valencia layers, ₱ 20-lb box	80@1	00
(Usual advance for fractions.)		
Loose Muscatel, 4-crown, ₱ lb	5¼@5¾	
Loose Muscatel, 3-crown	4¼@4¾	
Loose Muscatel, 2-crown	3¼@3¾	
Loose Muscatel, ungraded	—@4	
Sultanas, unbleached	—@4½	
Seedless Muscatel	—@3¼	
Thompson's Seedless, unbleached	—@6	
(Above prices for loose raisins are for 50-lb boxes.)		
Dried Grapes	2¼@2¾	

Citrus Fruits.

Orange offerings are confined to a few late Valencias, and these are not moving to any great extent. Lemons are in much the same liheral supply as for some weeks past, with market rather weak, especially for other than strictly choice, the inquiry heing largely for the very best. Limes are being offered at easy figures, which accounts to some extent for the lack of firmness in the Lemon market.

Oranges—Navels, ₱ box		—@—	
Mediterranean Sweets		—@—	
Late Valencias	1	00@ 3	00
Lemons—Cal., select, ₱ box	2	50@ 3	00
Cal., good to choice	1	50@ 2	00
Cal., common to good		75@ 1	50
Limes—Mexican, ₱ box	4	00@ 4	50
Cal., small box		75@ 1	00

Nuts.

No new developments have come to the surface since last review regarding Almonds or Walnuts. The market is hare of spot stock. Peanuts are in light supply and market is firm.

California Almonds, paper shell, ₱ lb	—	@—	
California Almonds, soft shell	—	@—	
California Almonds, hard shell	7	@ 9	
California Almonds, shelled	—	@—	
Walnuts White, paper shell	—	@—	
Walnuts White, soft shell	—	@—	
Walnuts White, Cal., standard	9	@10	
Chestnuts, Cal. Italian	6	@ 7	
Peanuts, Cal., fair to prime	5½	@ 6	
Peanuts, Eastern hand-picked	6	@ 7	
Pine Nuts	6	@ 8	

Wine.

The market is ruling quiet, without being quotahly lower. If undue selling pressure were exerted, however, less than full current rates would in all prohability have to he accepted. Claret is quoted at 16@20c per gallon, delivered in San Francisco. Superior qualities are held at an advance on these figures. Shipments outwardly hy sea in June from this port were 182,270 gallons and 580 cases, representing a value of $63,500. In June, 1898, the shipments by sea were 89,535 gallons and 370 casss, valued at $34,470.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, ohtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are hased on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possihle the existing values. It should he remembered, however, that at times, owing to the superior merit of offerings, undue competition hetween buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

California Dried Fruit at New York.

NEW YORK, July 26.—California dried fruits: Market quiet but steady. Evaporated apples, common, 6½@7¼c; prime wire tray, 8¼@8½c; choice, 8¾@9c; fancy, 9¼@9½o.
Prunes, 3¼@8½c.
Apricots, Royal, 14@15c; Moorpark, 15@16c.
Peaches, unpeeled, 10@11c; peeled, —@—c.

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Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	139,631	331,751	200,106
Wheat, ctls	91,767	282,229	156,869
Barley, ctls	151,132	224,497	53,235
Oats, ctls	18,080	39,650	29,295
Corn, ctls	3,710	5,540	1,750
Rye, ctls	1,700	4,715	1,350
Beans, sks	7,469	16,479	3,814
Potatoes, sks	16,066	47,723	67,122
Onions, sks	3,733	9,175	13,307
Hay, tons	4,387	8,893	8,211
Wool, bales	2,656	7,883	4,651
Hops, bales	20	373	250

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	25,720	134,920	91,508
Wheat, ctls	74,242	244,370	141,652
Barley, ctls	129,697	133,460	15,571
Oats, ctls	856	906	2,563
Corn, ctls	111	379	1,937
Beans, sks	415	1,374	2,657
Hay, bales	2,233	2,607	3,121
Wool, lbs	....	....	205,593
Hops, lbs	819	6,142	62,726
Honey, cases	13	25	209
Potatoes, pkgs	793	3,438	3,172

New Agricultural Books.

The Hop: Its Culture and Cure, Marketing and Manufacture. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops, and on the use and manufacture of hops. By Herbert Myrick. This book is without douht the most complete work on hops ever attempted. The result of years of research and observation, it is a volume destined to he an authority on this crop for many years to come. It takes up every detail from preparing the soii and iaying out the yard, to curing and selling the crop. Every line represents the ripest judgment and experience of experts. Price $1.50, postpaid.

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Ginseng: Its Cultivation, Harvesting, Marketing, and Market Value: hy Maurice G. Kains, with a short account of its history and botany. It discusses in a practical way how to hegin with either seed or roots, soil, climate and location, preparation, planting and maintenance of the beds, artificial propagation, manures, enemies, selection for market and for improvement, preparation for sale, and the profits that may he expected. 25c postpaid.

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Pioneering in British Columbia.

Throughout the West the men who discover and open to the world new mining regions have many obstacles to overcome and privations and hardships to endure which are unknown to those who have never left their comfortable homes to pioneer in a wilderness of timbered and rugged mountains or labor wearily across a waste of burning sands. There are none of the conveniences of civilization, but the pioneer must be fruitful of resource, and, as the history of the West shows, he usually finds a way to overcome these difficulties.

Three of the illustrations on this page convey a very good idea of how a pack train is transferred across a deep, swift river. The scene is in British Columbia and is taken, together with the other illustrations on this page, from the last report of the Minister of Mines for that province. Here the pioneers, finding it necessary to cross the stream and having no bridge or suitable vessel for transportation, drive their horses into the stream and make them swim to the opposite shore. The beautifully picturesque scenery is illustrated in each of these pictures. Bugaboo creek, in East Kootenay, is an important stream flowing into the Columbia near Galena P. O. The trail on this creek starts from the Columbia at a point opposite Spillmachene landing, to reach which from the Golden and Fort Steele wagon road, it is necessary to swim the horses across the Columbia as illustrated herewith. The creek is twenty-eight miles long. The camp of tents shown is at the head of Bugaboo creek.







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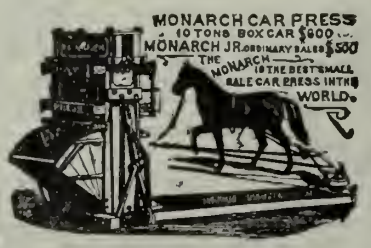
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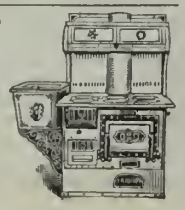
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Chinese Garden Near Chicago.

It is stated that the first crop of Chinese vegetables raised east of the Rockies was marketed in Chicago. An ex-laundryman was the grower; the miniature farm upon which he raised Chinese equivalents for turnips, peas and cucumbers is a one-acre tract of land.

Hop Chang for several years conducted a laundry. Last January a rival establishment moved into Hop's neighborhood and his business fell away. The laundryman had been a gardener in the Orient, and he sold out his laundry, rented an acre tract on Forty-seventh street and procured a stock of seeds and roots from San Francisco. Hop Chang's crops are in thriving condition and give promise of a rich pecuniary harvest. He has sent to China for more seeds and certain farming implements he deems essential to the best results in gardening.

Industrial Notes.

—Los Angeles, Cal., will issue $2,000,000 municipal water bonds.

—California's school population is officially reported to be at a standstill.

—The Pacific Coast Telephone Co. has 54,330 subscribers, the Central Union 52,745.

—The Kern River, Cal., Power Co. will build a reservoir, erect a power house at Kernville, and construct an electric line thence to Los Angeles.

—The usual railroad rumors now take the form of alleged consolidation of the Pennsylvania and Santa Fe to form a great transcontinental system from the East clear through to San Francisco.

—Marconi's system of wireless telegraphy is to be put in operation in Hawaii as a means of communication between the different islands of the group. An organization has been formed, capital has been subscribed for the project, and some of the material of the system is already on the way.

—Immigration arrivals at San Francisco during the year ending June 30th, '99, were 4766—3726 males, 1040 females: Japan 1667, England 1464, Germany 201, Mexico 153, Portugal 138, Ireland 150, Spain 72, Corea 22, Phillippine islands 11. The money brought by these various immigrants was $333,754.

—A City of Mexico report is that Popocatapetl volcano has been sold for $600,000 in gold to General Gesper Sanchez, who for some time owned and operated the sulphur deposits in the crater of the volcano. A cogwheel railroad will be built to the summit and the sulphur deposits mined on more extensive scale.

—An Eastern electrical paper estimates that the waterfalls in California alone have over 240,000 H. P., and that about 45,000 of this H. P. has already been converted into electrical energy and sent to Los Angeles, Sacramento, Fresno, Pomona, Redlands, Folsom and San Diego for lighting and motive purposes. Five more electric companies will have their long distance transmission systems in working order by next September. About 50,000 more H. P. will be developed by them for use in California and Oregon, while still other companies are beginning work on electric power plants that will cost from $100,000 to $500,000 each, and will harness more mountain streams for electrical transmission of their power to distant towns.

—Precious stones to the value of $160,290 were found in the United States in '98, as compared with $136,675 in '97. G. F. Kunz, the agent for the Geological Survey, in charge of the collection of data relative to the production of precious stones in this country, deals at length in his annual report with the finding of rock crystal at Mokelumne Hill, Cal., of such purity and size as to rival the Japanese; the successful cutting of these in the United States up to over 7 inches in diameter; the increased output of the Fergus county, Montana, sapphire mines; the yielding of fine blue gems up to two karats each, and the discovery of a new locality where the stones are more varied in color than those heretofore found; the continued output of the New Mexico turquoise mines and the opening up of mines in Nevada; the finding of magnificent green and other tourmalines at Paris Hill, Me., and Haddam Neck, Conn.; the increased sale of the Australian opal; the greater importation of uncut diamonds and the increase of the diamond cutting industry in the United States; the unprecedented increase in the importation of cut diamonds and the revival of the precious stone industry in the United States.

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Props, Toledo, O.

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm.

WEST & TRAUX, Wholesale Druggists, Toledo, O.
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c per bottle. Sold by all Druggists. Testimonials free.

Hall's Family Pills are the best.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING JULY 11, 1899.

628,597.—ELECTRIC ELEVATOR ALARM—H. R. Bruhns, S. F.
628,763.—VEGETABLE CUTTER—E. T. Clowe, Woodland, Cal.
628,697.—CONCENTRATOR—Couls & Dohlgreen, Tacoma, Wash.
628,698—MAKING PRESS COPIES—L. D. Craig, Tacoma, Wash.
628,781.—DRILL—Farrington & Copeland, Phœnix, Ariz.
628,600.—COMPASS AND COURSE CORRECTOR—J. M. Fields, S. F.
628,601.—SKIRT SUPPORT—W. Fraser, Oakland, Cal.
628 580—CURLING IRON—B. Gray, Los Angeles, Cal.
628 906.—ROTARY PUMP—J. Grindrod, Los Angeles, Cal.
628,625.—SAW FILER—S. W. Gutridge, Granite, Or.
628,540.—BUCKLE—H. C. Keeler, Waterville, Wash.
628,909.—SHADE CUTTER—E. Litten, Santa Ana, Cal.
628,586.—AIR COUPLING HANGER—J. C. Look, Tudor, Cal.
628,483.—SHEARS—F. Macri, Huntington, Or.
628,671.—VALVE—G. O. Newman, Riverside, Cal.
628,605.—HATHOLDER FOR CHAIRS—F. R. Ottenheimer, S. F.
628,606—STEAM GENERATOR—J. C. Parker, S. F.
628,895.—TAX COMPUTER—W. F. Parker, San Jose, Cal.
628,590.—HORSESHOE—W. E. Shaw, S. F.
628,615.—ERASER CLEANER—J. L. Smith, Riverside, Cal.
628,866.—FRUIT GRADER, ETC.—F. M. Starrett, Silverton, Or.
31,213.—DESIGN PHOTO MOUNT—P. J. Stuparich, S. F.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

ELECTRIC ELEVATOR ALARM.—H. R. Bruhns, San Francisco, Cal. No. 628,597. Dated July 11, 1899. The object of this invention is to provide a means for signaling the approach of elevator cages to different floors or points of danger. It consists of a series of independent signals, each having a circuit closing device and an electrical circuit, a spring projecting into the path of the elevator so as to remain depressed during the passage of the elevator past it, a fulcrumed lever and a push bar connecting one end with the spring, a push button actuated by the opposite end of the lever to close the circuit and a means for compensating for irregularities of movement of the lever and push bar.

HAT HOLDING ATTACHMENT FOR CHAIRS.—F. R. Ottenheimer, San Francisco, Cal. No. 628,605. Dated July 11, 1899. This invention is designed to provide a safe receptacle for ladies' hats, and is employed as an attachment for theater chairs or seats in public places in which ladies usually remove their hats. It consists of a collapsible case fitted to the bottom of the seat and closable against the bottom of the seat when not in use, so that when the seats are turned up it does not project to interfere with the passing of people. When in use, it is extended and the hat is placed in it, and it then depends below the bottom of the seat and forms a sufficient protection for the hat.

WAIST AND SKIRT ATTACHMENT AND SUPPORT.—Wm. Fraser, Oakland, Cal. No. 628,601. Dated July 11, 1899. This invention is designed for the support of ladies' skirts and to form a connection therewith for shirt waists and similar upper garments. It consists of an attachment to be applied to the belt or hand of the skirt, and provided with hooks which engage the belt attachment, and also to engage with the tape of attachment upon the hand of the waist so as to keep the latter in position and maintain the junction of the two garments. The device comprises a plurality of bent plates attached to the skirt having outwardly and inwardly presented hooks. Loops or attachments are fixed upon the lower part of the waist, and with these the inner hooks of the skirt attachment engage.

COMPASS AND COURSE CORRECTER.—J. M. Fields, San Francisco, Cal. No. 628,600. Dated July 11, 1899 This invention is designed for the correction of errors in the course of vessels, such as may arise where iron and steel enter largely into the construction, or on account of the character of the cargo or from other causes. It consists of a suspended ring or structure, an outer ring fitting and adjustable therein having its surface graduated in degrees each way from zero, a dial concentric with the ring, flanged and fitting therein with clamping screws, said dial having compass readings upon opposite sides and reverse from each other. A central socket opening is made upon one side adapted to receive the standard of the sight bar and a socket for the shadow pin upon the other side. This shadow pin may consist of a single slender pin or a rectangular open frame extending upwardly from the socket piece and having a wire stretched across the opening.

PHOTOGRAPHIC MOUNT.—P. J. Stuparich, San Francisco, Cal. No. 31,213. Dated July 11, 1899. This design consists of a border of raised lines or ribs radially disposed from a central space which may be circular, oval or rectangular. The outer ends of these raised radial lines are made of different lengths so as to present a wavy or serrated outline.

Fall Grains

need a good start to stand the winter; therfore feed them well in the beginning. This will produce hardy plants with plump grain. A good fertilizer should contain plenty of

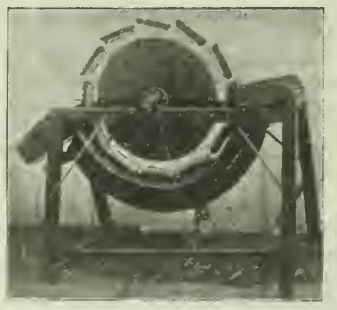
Potash

Potash increases stiffness of stalk and plumpness of grain.

Our books tell the rest—sent free.

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To Apple Packers!



The Tangent Fruit Brushers,
Pat. March 8, 1898, and April 11, 1899.

These machines will put a high polish on apples and greatly improve the appearance of the fruit, without any injury, and at a very slight expense.
CIRCULARS ON APPLICATION.
WRIGHT BROTHERS. - RIVERSIDE, CAL.

Feeds and Feeding.

By W. A. HENRY.

This is a practical, thorough and complete work based on what has been done: **a record of solid facts.**

Every Feeder, Breeder or Farmer should have it for every-day reference.

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A Practical Guide to Success in California. Large 8vo., fully illustrated.
PRICE $2. Orders received at this office.

THE RAISIN INDUSTRY.

BY GUSTAV EISEN.

A Practical Treatise on Raisin Grapes,
Their History, Culture and Curing.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hilgard, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers.

Sold only by THE DEWEY PUBLISHING CO., or its agents at the uniform price of $3.00, postage prepaid Orders should be addressed:

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TREE WASH, OLIVE DIP.
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CREAM SEPARATORS.

De Laval "Alpha" and "Baby" Separators.

First—Best—Cheapest. All Styles—Sizes.
Prices $50.- to $800.-

Save $10.- per cow per year. Send for Catalogue.

THE DE LAVAL SEPARATOR CO.

Randolph & Canal Sts., CHICAGO. | 74 Cortlandt Street, NEW YORK.

Fruit Prices at Various Points.

DAVISVILLE, July 23,—The town was full of fruit buyers last Saturday and the telegraph wires were kept hot with cipher messages to and from all parts of the country. All the big firms were represented and made their bids for the entire almond crop of this vicinity. The J. K. Armsby Co. was the successful bidder, the prices per pound offered for the different varieties being:

Nonpareil	10½c
IXL	9½c
Ne Plus Ultra	8⅜c
Drake's	9¾c
Languedoc	7¼c

The crop controlled by the association this year will amount to about 300 tons.—Enterprise.

VISALIA, July 20.—Owing to the scarcity of pears this season they command high prices. Canneries are offering $40 per ton upwards. Eastern sales have ranged from $2.25 to $2.50 per box. Kelsey Japan plums seem to be a great favorite in the East this season, prices going as high as $4 per box in some instances. Buyers here have been paying 2¼ cents per pound.

WILLOWS, July 21.—The combined canneries are now paying good prices for most of the fruit in the market. As high as $55 a ton is being paid for apricots, while peaches are quoted at from $15 to $30 per ton. The fruit shippers have won their fight against the proposed increase in minimized carload lots.—Journal.

SAN JOSE, July 20.—Canners are working rapidly on apricots, which have been ripening very fast. They are paying from $37.50 to $55 per ton, according to quality. Bartlett pears have nearly all been contracted for. The price is from $40 to $50 per ton, size and quality considered. Freestone peaches for canning are going at $20, with a slight increase for some fine lots. The general talk for Clings is $30 to $35. There is a little move in prunes. The sales of fresh fruit, while not in many cases at a certain price per ton, are estimated at $40.

Eastern Fruit Reports.

The Kentucky section of the Weather Bureau, July 17, says: Fruit promises to be a very poor crop in most sections.

The New York section, same date, says: Grapes are very fine, and in many places are in advance of the season. The supply promises to be large. Berries of all kinds are bountiful and of good quality.

The New Jersey section, July 18, says: Orchard and all small fruits are promising, although the dropping of apples is still reported from some places. Grapes are doing well; raspberries, blackberries and huckleberries will be good average yields, especially in the central and northern districts.

The Missouri section, July 18, says: Apples are very poor. Fruits, as a rule, are not good.

The Florida section of the U. S. Weather Bureau, July 10, says: Peaches and pears are fairly abundant in markets, though both crops are decidedly short.

Pacific Saw Manufacturing Company Manufacture the



"HATCH" Pruning Saw.

THE BEST IN USE!

EMERY WHEELS, GRINDSTONES, FILES, SAWS, MACHINE KNIVES, ETC.

Sheet Steel.

Telephone Main 5052. 17-19 FREMONT ST., SAN FRANCISCO.

What is Coming for America.

The Pacific ocean is to be an American lake. We will control the commerce of its shores. Already our dealings with the China seas is worth $40,000,000 a year, and it will not be long until it will be in the hundreds of millions. This trade is the great stake of the opening century and already it is in our grasp. I have had an agent visiting China, Japan and the Orient generally with a view to looking up the chances for American trade in those products that affect the farmer, and I find that there is already an opening. For example, there is a good market for butter over there, but when the market has been found the fact stares us in the face that the farmers of the far West and of the coast are not yet ready to furnish the article. The development of a dairy industry on the coast must come. The door is open for such a trade. When the Eastern markets are opened up there will be a line of division running through this country from north to south. The produce of the farms will move to the East and to the West; from one side of the line the market will be in Europe, on the other side in Asia, and there will be an end of the harrowing competition between the farmers of the East and the West. Each will have its own markets, and thus will the earth be divided between the farmers of America.—Hon. James Wilson, Secretary of Agriculture.

For the Paris Exposition.

The California State Board of Trade wants to be put in communication with parties who can furnish at least creditable samples of any of the following articles, viz.: Good, large carrots, beets, parsnips or other vegetables, cotton in the pod and on the stock, Jerusalem artichokes, Egyptian corn, broom corn, pop corn, Indian corn, fine, large tomatoes and extra large onions, hemp, flax, jute, ramie or other fiber plants, good string beans, canaigre and tan barks.

Samples of each of these products are desired by the State Board of Trade, first to replenish its permanent exhibit and secondly for a display of California products that it is helping to prepare for the great Paris Exposition in 1901. If parties who have any of these articles will notify the State Board of Trade, an order will be placed with them at once for such amounts as may be required. All articles will be paid for by the State Board of Trade, also the cost of packing and expressage to their headquarters, Union Ferry Building, San Francisco.

An Ant Exterminator.

TO THE EDITOR:—The most successful and economical ant exterminator that I have seen is gasoline. Pour about a half pint of gasoline into the ant hill or nest and set it afire. The gasoline will instantly spread through all the nest, and, as the heat on the surface increases, the gas will generate from the utmost recesses and the fire will cook the ants. Half a pint of gasoline will burn from three to eight hours and kill every ant in the largest nest, as well as all which attempt to enter it from without. R. D. WINTERS.

Folsom, Cal., July 15th.

HE—Oh, by the way, the doctor advised me to eat a water cracker before going to bed; said it would prevent my insomnia. Are there any in the house?

She—The only thing in the house approaching a water cracker is an ice pick.

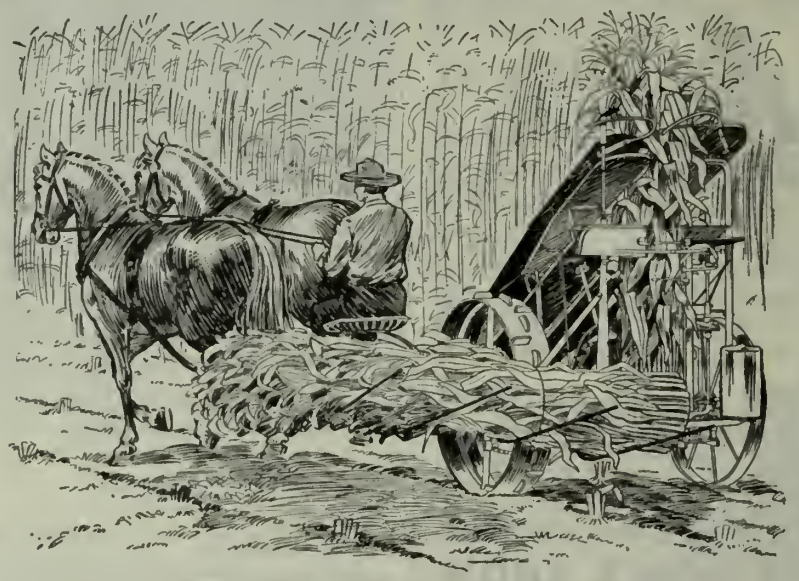
Whene'er a noble deed is wrought,
Whene'er is spoken a noble thought,
Our hearts in glad surprise
To higher levels rise.
—Longfellow.

FITS Permanently Cured. No fits or nervousness after 1st day's use of Dr. Kline's Great Nerve Restorer. Send for FREE $2 trial bottle and treatise. DR R. H. KLINE, Ltd., 931 Arch St., Phila'a, Pa.

The McCormick is "The Best in the World."

Standing to be Bound.

King corn is just now receiving proper service from the great machinery people. The McCormicks have just issued a new special catalogue on corn cutting, binding and shredding appliances, especially the new McCormick Vertical Corn Binder, of which an outline engraving is given herewith. It is a notable achievement and is worth the attention of corn growers. Full particulars of its plan and operation can be had by writing to the McCormick Harvesting Machine Co. of Chicago, asking for their new special catalogue on corn-harvesting machinery.

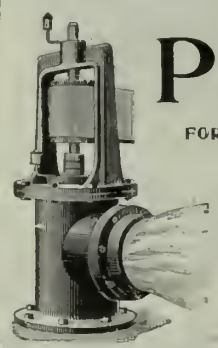


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WOOD'S DEEP WELL

Propeller Pump.

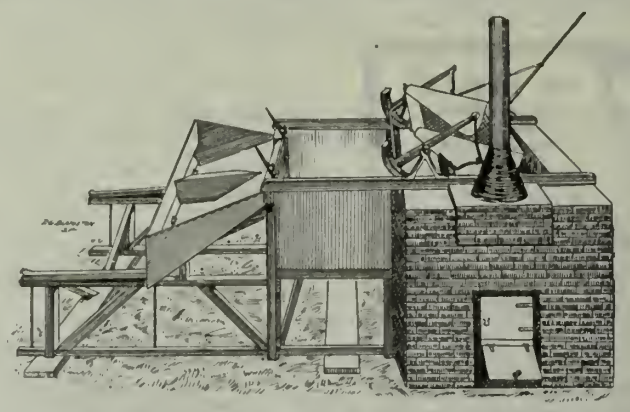
FOR DEEP OR SHALLOW LIFTS FOR IRRIGATION, MINES, RIVERS, VESSELS AND WATER WORKS.



A simple screw propeller pump without valves, gearing or other intricate parts. Requires no pits to be dug to water level. Will pump more water from a well than any other pump on earth.

Catalogue and Estimates Cheerfully Furnished.

L. G. HARRISON, 31 Main St., San Francisco.



The SAN JOSE DIPPER.

Unquestionably the best hand dipper on the market. No other dipper operates so easily, or handles delicate or overripe fruit so gently. Large growers should look up the CUNNINGHAM DIPPER. Attention is called to our Graders for both green and dried fruit. A full line of Fruit Driers' and Packers' Equipments. *Write for Catalogue to-day.*

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ANDERSON PRUNE DIPPER CO.,

SAN JOSE, CAL.

Manufacturers of PRUNE DIPPERS, GRADERS, and all appliances for handling fruit economically.



Our Challenge Grader is a great success, and the price within the reach of any fruit grower. Some of our early patrons are Porter Bros. Co., San Francisco; Guggenhime & Co., San Francisco; Phœnix Raisin Packing Co., Fresno; Porter Bros Co., Fresno; Haven Bros., San Jose; Ben C. Marr, San Jose; Griffin & Skelley Co., Frosno. SEND FOR CATALOGUE.

ANDERSON PRUNE DIPPER CO., 455 W. SANTA CLARA STREET, SAN JOSE, CAL.

More Money per Pound.



The advantages of a farm separator are not alone in the increased amount of butter produced from the same milk, but also in its improved quality, which brings the extra few cents per pound. The **Little Giant Separator** produces these results surely, every time, everywhere. It makes the dairy business pay. Isn't that what you want? Send for Catalogue No. 31.

The Sharples Co., **P. M. SHARPLES,**
Canal & Washington Sts.
CHICAGO. **West Chester, Pa.**

BRANCHES:
Toledo, O. Omaha, Neb. U. S. A.
Dubuque, Ia. San Francisco, Cal.

Patrons of Husbandry.

Sonoma County Pomona Grange.

The meeting of Pomona Grange in Santa Rosa last week was a representative one and matters of interest to Grangers and those outside the membership were discussed, states the *Press-Democrat*.

The social feature of the gathering was especially pleasing. Following the transaction of routine business and the conferring of the fifth degree, which occupied the morning session, the large company present adjourned to the banquet room where Mrs. Rea and Mrs. Carlton had spread the tables with a feast of good things such as are alone found at the harvest feasts of the Grange. Over the meal there was much merrymaking and exchange of sociability.

At half past one o'clock the worshipful Master of the county Grange called the meeting to order again.

The following resolution was adopted after discussion:

WHEREAS, The Wine Makers' Corporation, which made the continuance of the grape growing industry in this State possible during the last few years, has expired by its own limitation, thus leaving the grape growers at the mercy of the insane and suicidal competition which characterized the wine industry of said corporation; and

Whereas, Henry J. Crocker now proposes a plan which promises a continuance of the success of the grape growing industry of this State; now therefore, be it

Resolved, by Sonoma County Pomona Grange, That the best interests of the grape grower demand that they avail themselves of Mr. Crocker's proposition.

The proposed fruit combine on the part of the growers was also discussed and the following resolution was passed:

WHEREAS, The fruit packers of the State are combined in their own interest, which is manifestly to secure our fruit at the lowest possible price, leaving us practically at their mercy; therefore, be it

Resolved, That we recommend the permanent organization of a fruit growers' association to secure concerted action among the growers, that we may be prepared to protect ourselves in the future. In furtherance of this idea we recommend that all the subordinate Granges of Sonoma county instruct their representatives to the State Grange to work for the organization of fruit growers' associations in all the fruit districts north of Tehachipi.

Preserving Apples and Pears.

Read before Tulare Grange by MRS. NELLIE SCOTT.

Fruits for preserving should be sound and free from all defects, using white sugar, and also that which is dry, which produces the nicest syrup; dark sugar can be used by being clarified. In the old way of preserving we used pound for pound when they were kept in stone jars or crocks; now, as most preserves are put in sealed jars or cans less sugar seems sufficient. Three-quarters of a pound of sugar is generally all that is required for a pound of fruit.

Preserved Apples (*whole*).—Peel and core large firm apples—pippins are the best. Throw them into water as you pare them. Boil the parings in water for fifteen minutes, allowing a pint to one pound of fruit. Then strain, and, adding three-quarters of a pound of sugar to each pint of water, as measured at first, with enough lemon peel, orange peel or mace to give a pleasant flavor, return to the kettle. When the syrup has been well skimmed and is clear, pour it boiling hot over the apples, which must be drained from the water in which they have stood. Let them remain in the syrup until both are perfectly cold. Then, covering closely, let them simmer over a slow fire until transparent. When these directions have been carefully followed the fruit will remain unbroken and present a beautiful and inviting appearance.

Canned Apples.—Make a syrup of one pint of sugar and one pint of water and juice of one lemon. Pare and core the apples and add to the boiling syrup, being careful not to put in too many at a time, or they will not retain their shape. Cook until tender and seal in glass jars. This is an excellent recipe for winter use, on account of the many ways the apples can be used, viz: dumplings, fritters, pies, sauce, etc.

Pickled Pears.—Select some small sound ones, pare thinly and stick a clove in the blossom end. Take one pint of vinegar to two of sugar, and one-half teaspoonful each of all spices to the gallon of vinegar. Put the spices in a muslin cloth and boil in the vinegar; cover the fruit with vinegar and boil until tender; seal in jars.

Preserved Pears.—Ten pounds of fruit, eight pounds of sugar, pare off the peeling thin. Make a nice syrup of nearly one cup of water and one pound of sugar, and when clarified by boiling and skimming, put in the pears and juice and thinly-pared rind of one lemon to each five pounds of fruit. If the pears are hard and tough, parboil them until tender before beginning to preserve, and from the same take what you need for making the syrup. The Bartlett, P. Barry and Easter Beurre are the most desirable for preserving.

A CONSULAR report July 10, 1899, says: There has been a decrease in the value of exports of cereals from the Argentine Republic, notwithstanding the quantity of wheat exported has been much greater than that exported during the like period in 1898. The export shipments of wheat for the first four months of 1898 amounted to 676,280 tons (metric), while those for the first four months of the present year have amounted to 1,007,551 tons. The shipments of corn and linseed have also been greater this year than last. The Argentine exports of wool during the season, Oct. 1 to May 1, were as follows: 1898, 415,109 bales; 1899, 396,738 bales.

THE Attorney-General of Michigan has instituted proceedings to remove Mrs. Abbott from the office of Prosecuting Attorney of Ogema county, to which she was elected last November. She is a qualified lawyer and was regularly elected; but, as the statutes are silent on the question of the eligibility of a woman to hold this office, the Attorney-General has decided that she shall be deposed. She will take her case to the Supreme Court; but if this body shows itself no more liberal in spirit than when it gave its decision against municipal suffrage for women, which had been granted by the Legislature, Mrs. Abbott will not be Prosecuting Attorney of Ogema county.

ALWAYS KEEP ON HAND
Pain-Killer
THERE IS NO KIND OF PAIN OR ACHE, INTERNAL OR EXTERNAL, THAT PAIN-KILLER WILL NOT RELIEVE.
LOOK OUT FOR IMITATIONS AND SUBSTITUTES. THE GENUINE BOTTLE BEARS THE NAME,
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Eureka Harness Oil is the best preservative of new leather and the best renovator of old leather. It oils, softens, blackens and protects. Use
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on your best harness, your old harness, and your carriage top, and they will not only look better but wear longer. Sold everywhere in cans—all sizes from half pints to five gallons.
Made by STANDARD OIL CO.

Breeders' Directory.

Horses and Cattle.

HOLSTEINS—Winners of every 7 days' butter contest at State Fair 1898 1st & 2nd for aged cows, 4-yr., 3-yr. & 2-yr.-olds; *21 Jerseys & Durhams competing.* 4th year my Holsteins have *beaten* Jerseys for butter. Stock for sale; also pigs. F. H. Burke, 626 Market St., S. F.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times. either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

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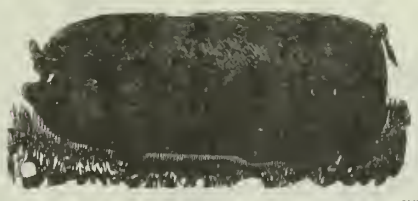


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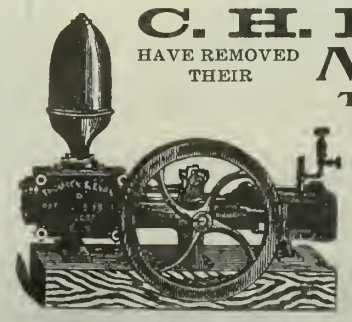
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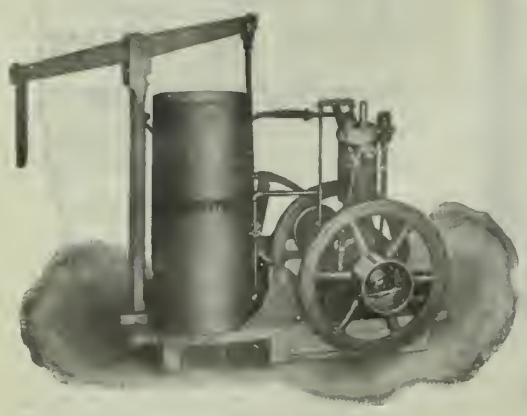
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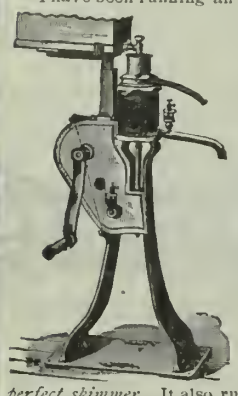
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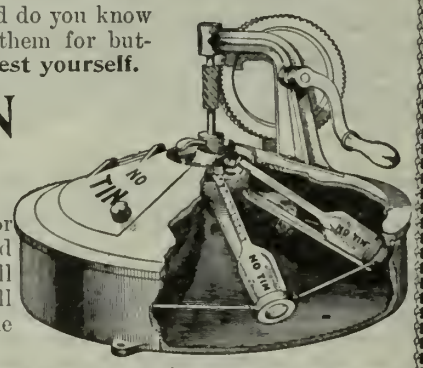
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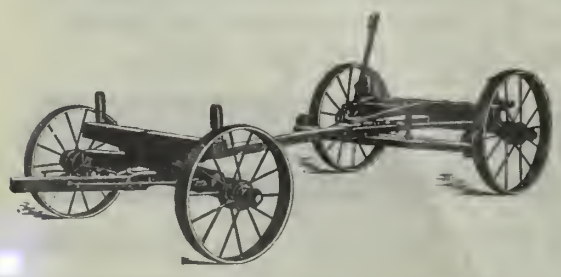
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Vol. LVIII. No. 6. SAN FRANCISCO, SATURDAY, AUGUST 5, 1899. TWENTY-NINTH YEAR.
Office, 330 Market Street.

A Poultry Experiment House.

In the PACIFIC RURAL PRESS of July 22 we gave a sketch of some interesting experiment work with poultry at the Utah Experiment Station and some of the very suggestive results secured. Our poultry readers will also be interested to see the arrangements which the poultry manager, Mr. James Dryden, made for his patients while they are undergoing his treatment. The house is certainly full of chicken comforts and conveniences, and any pullet who would not do her best under such environment ought to be ashamed of herself. In explanation of the interior view it may be said that the pens are 5x7 feet and are divided by wire partitions. Counting the time the males were in the pens, there were on an average five and one-third fowls in pens 1, 2, 3, 4, 7, 9 and 10; the floor space was therefore equal to about 6 square feet per fowl. In the case of pens 5 and 6 the male was in the pen throughout the year, so that in pen 5 there were 35 square feet for six fowls and in pen 6, 35 square feet for four fowls. Those designing poultry houses may use these figures in determining size, perhaps, as they are probably quite adequate, providing such care as given these fowls is to be followed.

As for the bird's-eye view of the exterior it may be noted that the building facing the south and sloping to the south affords no protection against the heat of the sun. The temperature inside the building was very high during the warm months. Throughout the summer the fowls suffered from the heat of the building when they were in feeding, as they must necessarily be a large portion of the day. Trees have now been planted in the yards, which will in time protect the building from the sun. A record of the minimum temperature of the building was kept during January, February and March. This temperature was taken at 7 o'clock in the morning, probably the coldest part of the day. The thermometer fell to 16° in January and the average for the month was 25°. February averaged 35° and March 37°. No artificial heat was used.

It is not thought, of course, that the arrangements for systematic experiments would be fitted for ordinary poultry keeping, and yet they are suggestive in some respects. The roosting spaces are so located as to save space and give the fowls clean scratching room. The boards for the droppings are at such height that they can be most conveniently cleaned, and the hoppers above, from which dust or gypsum can be showered down, make it very easy to keep the place sweet all the time, though the cleaning be done but once a week. The straw on the floors is the arrangement to test the exercise theory. The exercise consisted in making the fowls scratch for their grain food, which was fed in a litter of straw about 6 inches deep. This straw was renewed once a week in winter and twice a month in summer. The pens without exercise were fed in boxes. There was no floor in the pens, and of course the hens fed in the boxes had considerable exercise by scratching in the ground. and in the outside runs they had more or less exercise in summer.

The nest boxes afford desirable seclusion, and the dust boxes opposite on the right side are raised from the floor so that they do not encroach upon the floor space. The whole outfit is quite interesting and well arranged for its purposes.



INTERIOR VIEW OF POULTRY EXPERIMENT HOUSE OF THE UTAH EXPERIMENT STATION.

CALIFORNIA is giving not only example but skill to the building up of the beet sugar interest in other States. The latest gift of this sort is the acceptance of the superintendency of the new beet sugar factory at Grand Junction, Colorado, by Hubert Dyer, nephew of the pioneer beet sugar man at Alvarado, E. H. Dyer. Mr. Dyer is well fitted for his work by tradition, education and commercial experience. Recently he has acted as fruit purchasing agent of the Cutting Packing Co.; but he was trained in beet sugar lines and the services thereunto pertaining, and has now probably found his field for a life work.

THE Southern Pacific Co. is getting up a kinetoscope exhibit of California industrial scenery as a feature of the World's Fair at Paris. The other day W. L. Wright of San Francisco took several fine views of the Woods Bros.' big traction engine and harvesting outfit at work on Robert's island, near Stockton. It is to be shown at the Fair.



EXTERIOR OF POULTRY HOUSE, DIVIDED INTO TWENTY-FOUR PENS, FOR EXPERIMENTAL PURPOSES.

FIVE carloads of watermelons were shipped from Visalia on July 25. This is the first year watermelons have been raised in Tulare for market. Increased acreage will result.

PACIFIC RURAL PRESS.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, August 5, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The visit of Hon. James Wilson, Secretary of Agriculture, is a leading agricultural event of the week. He came in quietly from the North on Friday of last week, taking time en route to inspect portions of the Sacramento valley. A few days in the city gave opportunity for conference with leading San Franciscans interested in agricultural production and trade, and on Tuesday a start was made for Los Angeles to see southern California, returning northward to depart for the East by the old Central line to visit the great States of the interior. Secretary Wilson deeply regrets that his time is too limited to permit the close inspection of our agricultural resources and practices which he would like to make but he is a good observer and assures his friends that he will go East with better knowledge of our possibilities and even greater confidence in our future than he has hitherto been able to conceive. He looks upon the Pacific as a great American lake and concedes to California the commanding place upon its shores.

Wheat is a shade off and barley loses quite a small fraction. On the other hand oats have the call, as the supplies of choice are light and the Government wants 1200 tons for shipment. Rye is going abroad also. The drop in barley brings ground barley down, but bran and middlings are fairly steady. Hay has dropped a little. Beans and wool are quiet. Potatoes hold up well and onions are higher. In live stock there are no changes. Poultry is weak, owing to excess of Eastern supplies, and eggs are affected with the same trouble. Dairy products are unchanged. On the whole, it has been rather a quiet week.

Local forestry interests are awake this week owing to the visit of Prof. Gifford Pinchot, chief forester of the Department of Agriculture, who is inspecting the forest resources of the coast. He is making a good impression by his zeal and knowledge of forestry affairs, and unfortunately cannot stay long enough to satisfy either himself or his friends.

Fallowing and Fertility.

Secretary Wilson, who is now visiting California and observing our resources and development, made manifest his practical insight into agricultural policies by arraigning our method of bare summer-fallowing. He very wisely concludes that our method is wrong from the point of view of advanced practice in humid regions, and he is accredited with saying in a recent address that he proposed to secure for us, if possible, from some part of the world plants which could grow upon our summer-fallow, to the end that plowing them in might give fertility to the soil by adding the humus which it evidently lacks. Secretary Wilson will do a great public service if he can find a legume which will make a good summer growth in our dry summer. In regions where the rainfall is annually enough for a crop such a plant would be of great value and would come into wide use. But there is a factor in our summer-fallowing to which the attention of Secretary Wilson has not been called and that is the relation of our bare fallow to the conservation of moisture. Upon a recent occasion we wrote of the matter in this way:

One point at which California's large-scale work is arraigned is the manner of summer fallowing. In summer-rain countries the "bare fallow" (or land which is fallowed at intervals for one year without sowing of crop) has been shown to be of so little account that bare fallowing has been abandoned. The well-informed Eastern farmer can therefore hardly contain himself as he looks from the car window upon whole sections of land lying in bare fallow. Of course he must denounce the Californian grain grower as behind the times and shiftless. But the fact is, that the well-cultivated bare fallow is the sheet anchor of success over the great part of our grain area. At present there is no rotation open. It is impossible to grow a crop to reap and a green crop to plow in—there is scant moisture for one crop. The action of the atmosphere on the bare fallow adds something to the soil by progressive disintegration of its insoluble ingredients, but the chief value of the summer-fallow in California consists in giving one crop the rainfall of two seasons. The land is fitted to absorb all the rain that falls, the maintenance of a loose, clean surface prevents evaporation, the early sowing gives the plant a long growing season, and the result is that grain on summer-fallow makes a crop, even though the rainfall during the seasons of its growth is scant. Thus the bare fallow becomes the surety of a crop, and is strictly rational under California conditions.

It is probable that this fact will remain forceful in some parts of the State for a long time, perhaps always. Where the rainfall is scant and apt to fall below the requirements of a crop, the summer-fallow is a safeguard and assurance that a crop will be had at least once in two years which could not be guaranteed in such places if a crop were sown every year. It must be remembered that we are growing grain crops in California in places where the normal rainfall is considerably less than is usually held to be necessary for a crop. We can do this because the plant makes its growth during the winter and the rain all falls during the same months. At a farmers' meeting in Tulare recently it was the concensus of opinion that a good crop of wheat was assured in that locality by 10 inches of rainfall, and they get a good deal of produce on much less than that in some years. The theoretical requirements of a wheat crop have been placed at over 20 inches annual rainfall. California, therefore, by her peculiar coincidence of growing and raining season, can do with less; but in some parts the surety that the crop shall have even the necessary fraction is the combination of two rainy seasons for the benefit of one crop, as stated above, by a bare fallow with a frequently stirred surface.

But, though this is true, there is still ample opportunity for Secretary Wilson's kindly efforts in our behalf. On the basis of recent discoveries of how cheaply water can be poured over our fields in many interior valley sections, it is being found practicable to irrigate fields for grain where it was formerly thought to be out of the question. So far as this can extend the bare fallow will pass out of sight. At first, of course, moisture being assured by irrigation, the proceeding of most growers will be to grow grain every year. This will exhaust the soil twice as fast. Deeper cultivation will then be practiced, which will bring newer soil into service, but this recourse is, of course, limited in duration. Then will come the demand for rotation with soil-refreshing plants, like the legumes, and our valley lands will enter upon a rational system of agriculture which will be practicable under changed conditions where it is not practicable now. We have every reason, then, to thank Secretary Wilson for his disposition to find suitable plants for us. Though we shall have more moisture than now, we shall always need a drouth-tolerating legume, because, though moist at the roots, the plants will still have to endure hot, dry air, and all legumes will not do this. We shall watch with deep interest for the Secretary's acquisition of new plants.

But whatever may be secured in this direction by irrigation and by the use of new plants, we shall still, ere long, come face to face with the question of fertilizing as all the world knows it. More plant food for the legume, which is itself to be the food for the grain, is found to be desirable the world over. More plant food directly for the grain will, however, be the first step with the interior grain growers as soon as their moisture supply is assured. If values remain fairly encouraging, as now seems a fair anticipation, it will seem to be feasible to buy commercial fertilizers because they will return more than their cost in the increased grain yield. There should no longer be delay in wise experimentation to this end. It will not cost a great amount to make trial on an acre or two and note the growth and crop as compared with the rest of the field. By the use of the specially constructed drills for seeding and fertilizer distribution at one operation, the even spread can be secured and by care not to apply too much the over-stimulation of the straw can be avoided. This is being successfully done in a country of conditions similar to our own. There is now correspondence proceeding between some of our grain growers and Australians upon this very point. Mr. Thomas S. Wilson of San Francisco recently wrote to Mr. C. A. Murphy, U. S. Consular Agent at Adelaide, South Australia, and secured from him an interesting letter from which these points are taken:

South Australia obtains profitable results from using what to other countries would be considered a very small amount to manure, namely, 75 to 112 pounds of phosphates per acre, which about doubles the crop although much better results can be quoted, as last year on Northern Yoke's Peninsula crops which had been planted with the drill returned twenty-five bushels to the acre, while the average of the district was only five.

The fertilizers used depend mainly upon the state of the land and depends upon the sufficiency or otherwise of the main elements of plant life, i. e. nitrogen, phosphoric acid and potash. If the land is depleted of all or two of these necessities the cost is greater than if phosphoric acid or nitrogen singly were necessary. Many clay soils contain an abundant supply of potash, whereas nitrogen must often be supplied in a direct form, for which purpose nitrate of soda is found to be generally suitable, and not unduly expensive. But, important as these two elements are, phosphoric acid claims even more attention than either of them—perhaps than both combined, seeing that the activity and productiveness of the former two are largely dependent upon their being in the soil an adequate store of available phosphoric acid.

The manuring is done very cheaply and furnishes good results, which are produced by the use of between 75 to 112 pounds per acre of superphosphates *drilled in with the seed.* The great value of this system is that if the grain is put on with the fertilizer in dry weather, when the rain comes the plant flourishes quicker and stronger than it otherwise would do. There is no drill universally used.

This is a case in point with conditions very closely resembling our own. The doses seem homeopathic but we give the record as it stands. Now that our grain interests are awake and encouraged, let a little of this year's receipts, where good crops have been had, be wisely used toward the increase of our acre yields. It would be hard to mention anything in agricultural lines more interesting and important than this.

U. S. Senator Clark of Montana, who is in the beet sugar business in southern California, said on Tuesday to a Los Angeles reporter: "Should the drouth not be repeated, I intend to erect another sugar factory in this vicinity in 1900. The location of the plant will be the Cerritos ranch. Its capacity will be 1000 barrels of sugar a day and the plant will cost in the neighborhood of $500,000." Considering the fact that the Clarks predicted utter ruin to the beet sugar industry in California should Hawaii be annexed, it may be taken as doubtful whether we are going to the bow-wows this year after all.

QUERIES AND REPLIES.

Advice to a Young Man.

To the Editor:—I am a young man, 20 years of age, and have always lived in New York City. By occupation I am a bookkeeper, but my health is so poor that I must change my occupation. I write to you for advice, as you, perhaps, better than anyone else, know the conditions necessary for success in the fruit growing business:

First.—Would you advise me to leave friends and relatives and engage in business so far away, or would you advise me to buy something nearer home?

Second.—What would be the shortest and most direct way to thoroughly learn the fruit business? Were I to specialize, I would prefer orange growing; but, as I am ignorant of the subject, perhaps it would be more to my advantage to take up some other line. Kindly advise.

Third.—What books or other literature can I obtain here that would give me some light on the subject?—Young Man, New York City.

It is exceedingly difficult to answer your questions and advice involves the assumption of a good deal of responsibility. As a general thing, we would say that to undertake agricultural life, without any knowledge of agricultural affairs and experience in rural surroundings, is somewhat hazardous; and yet, at the same time, young men are continually entering upon such enterprises in this State and are succeeding. Of course, we do not know how many failures to count for one success, because failures rapidly pass out of sight. There is at the present time quite a demand for help in the fruit industries in the central and northern parts of the State; but the fruit work will be over in a couple of months, and then it will be very much of a question as to what a newcomer could do with himself. It would be a long and difficult undertaking to enter fruit growing, except as an employe, without some capital; and the investment of capital would be very hazardous unless one had some experience and knowledge of the business. As for reading on the subject of fruit growing in California, there is no better medium than the Pacific Rural Press, and "California Fruits and How to Grow Them," of which the third edition will soon be ready, and which will give you some preliminary insight into practice. If you had means enough to sustain yourself for a year in an economical way in California, while you had opportunties to examine into openings for yourself, there is little doubt but that you would find yourself suited in some outdoor occupation; but we cannot advise you to undertake beginning here without the means for support until matters have an opportunity to shape themselves to your liking. We are sorry that we cannot write more encouragingly; but we have given you the facts as we have learned to know them from long observation.

The Black Wattle.

To the Editor:—Through the columns of the Pacific Rural Press kindly give me information about the black wattle, as regards its value as a shade tree, or any other valuable quality it may possess, in this locality.—Chas. H. Hall, M. D., Corning.

The black wattle is *acacia decurrens*. It is a beautiful, tall-growing evergreen, with handsome, feathery foliage. It serves excellently for shade where an evergreen is desirable, for in some situations it is more desirable to have sun than shade in the rainy season. It is of some standing as a timber tree, and is the foundation of a considerable industry in Australia as the source of wattle bark, exported from Australia and imported to the United States for tanning purposes.

Handling Dried Fruit.

To the Editor:—I would like to know what should be done with dried fruit, peaches, grapes and prunes, immediately after it is taken, dried, from the trays, to prevent its becoming too dry before it can be gotten to market. In this part of the country the weather is exceedingly drying. What solution is used to crack the skin on prunes to prepare them for drying? What troubles me most is to know exactly what to do with the fruit as soon as it is dried.—C. D. Hoover, Fairmont.

The main point in the treatment of dried fruit after drying is to remove from the trays before it is overdried. It is a mistake to dry so that the fruit will "rattle." Drying should be carried just far enough to ensure freedom from fermentation and no further. The fruit is then taken from the trays and put in piles in the fruit house or in large boxes so that the moisture will be equalized throughout the mass of the fruit. This is facilitated by covering the piles with covers, or by closing the boxes, so that the outside atmosphere is no longer in contact with the fruit, which is especially desirable when operating in such dry climate as you have. If this treatment is carefully looked to the fruit will come to packing in just about the proper condition of moisture. When, however, it has been allowed to go too far it is sometimes necessary to dip in hot water before packing. In this case, an instantaneous dip and subsequent covering of the fruit to allow the moisture to become equalized throughout the mass brings it into proper condition for packing. This last treatment can be largely escaped by being careful that the fruit is not overdone at the first. If properly dried the "sweating" sufficiently distributes the moisture.

The solution used for dipping prunes to crack the skin is one pound of caustic soda, 98%, to about ten gallons of water, the solution being kept very hot. Prunes are dipped in this until the skin is very slightly cracked, then dipped in pure water and put on trays to dry. There are machines, as shown in the advertising columns of the Pacific Rural Press, which enable the prune maker to do the dipping and rinsing continuously, thus saving much time and expense.

Tree Malva.

To the Editor:—Has the shrub called "tree malva" any nutritive value? I used to see it in Yolo and Solano counties. A row of the shrubs is growing near here in a very dry location on a hillside, and yet all through last summer's drouth they grew and kept green. They were planted by a woman for shade for her chickens and she tells me they are much relished by cattle and stock of all kinds. I planted some, but my chickens killed them all by taking off the leaves as fast as they appeared. If the plants are of any value I will plant some in waste places.—Reader, Los Angeles.

The tree malva certainly has nutritive value, but just in what degree has not yet been determined by analysis, so far as we know. The plant has served a good forage purpose during dry years as far back as 1877 to our personal knowledge. It is certainly a good thing to have growing in waste places, though there are better plants for good productive land which can be cultivated.

Shothole Fungus on Prune.

To the Editor:—What disease or insect is troubling my young Imperial French prunes? I have planted (resets) 150 this year and all of them have the enclosed trouble. I would like to know what the remedy is.—Reader, Santa Cruz.

The holes in the leaves are made by the shothole fungus. The preventive and cure is the Bordeaux mixture applied earlier in the season. It is now so late and the amount of injury is so slight that no appreciable harm can result this season. It is almost always possible to find a little of this trouble on apricots, plums and cherries, but if it occurs in great amount the early use of a fungicide is necessary. You must be on the lookout for it early next summer.

The Splendor Prune.

To the Editor:—Will you please give information through your valuable paper concerning the Splendor prune? It was advertised and sold by the Napa Nurseries Company about three or four years ago.—Long Time Subscriber, West Side, Cal.

Since writing you have probably seen Mr. Coates' comments on this prune in last week's issue. We shall be glad to hear from all growers on the subject.

Pear Blight.

To the Editor:—I find in my pear orchard some twigs with leaf dry, fruit withered and wood dead. I have noticed it to some extent for two or three years, but not so much as this year. I notice it wherever I find a pear tree in this section. Generally it is a twig 6 or 8 inches long, but in some instances 2 or 3 feet. Can you tell me what it is and if there is any remedy? Are pear orchards through the State affected in the same way, and does it eventually kill them, the same as pear blight in the East?—Subscriber, Santa Rosa.

It is probably a bacterial blight of the pear tree, like that at the East, which, fortunately, is not common in this State, though occasionally encountered. There is no known treatment, except cutting back into healthy wood as soon as the trouble is seen.

Squaring the Circle.

To the Editor:—Please can you tell me in your paper how many inches of water go through a 4-inch pipe by 6-inch pressure?—Maral, Loomis.

Leaving out all questions of friction in the pipe, which are indeterminable from the above data, the question comes merely to the number of square inches in a circle 4 inches in diameter, which is 12.57 inches. This would be approximately the same number of miner's inches under the same pressure, after proper allowance for friction.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending July 31, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has been slightly below the normal, and along the coast cool nights and foggy mornings have been prevalent. There was a light shower in the mountains on the 25th. In some sections the heavy fogs somewhat retarded the work of harvesting and threshing, but conditions generally have been favorable for all crops. The yield of wheat is very heavy, and the quality probably equal to the average. Oats and barley are also proving excellent crops. Very little grain is being shipped, as the growers appear inclined to store it for better prices. Grapes are progressing favorably, but it is reported that the raisin crop will fall short of earlier estimates. Enormous quantities of peaches and other deciduous fruits are coming to market and being canned and dried. The fruit is of good quality. Sugar beets and corn are looking well, especially along the coast. Hops are thrifty and promise a large crop. Corn, potatoes and garden vegetables are plentiful. Citrus fruits are in good condition. In the southern portion of the San Joaquin valley and in southern California the water supply is diminishing.

Coast and Bay Sections.

The first peaches are going to market and canneries in Sonoma county; olings are still dropping. Grapes and apples are doing well and will yield good crops. Pears are in market; quality better than average. Weather has been favorable for all grain crops and for harvesting, which is still progressing. Wheat, barley and oats are above the average. Cool, foggy weather has been beneficial to sugar beets, and the crop is in good condition. Hay baling is still in progress. Hops are thrifty and promise a large yield. Corn is looking well.

Sacramento Valley.

Grapes are in fine condition; the loss from sunburn will be very light; early varieties are going to market; there will be a large crop of Tokays. Apples are of good quality. Oranges and olives are doing well. Peaches and plums are coming in freely. The Sacramento river is still falling and water in springs and wells is low. This is called the banner year for all grain crops. There is still a large amount of wheat to cut. Oats are harvested and nearly all threshed. Corn is in good condition and will yield a good crop. Tomatoes are plentiful.

San Joaquin Valley.

Grapes are thrifty and were benefited by favorable weather during the week. Raisin crop will probably be lighter than last year. Peaches and pears are plentiful, and are being dried and canned in large quantities. Melons are being marketed. Prunes are doing well. Harvesting is still in progress. Barley is said to be up to the average. In some sections wheat is inferior in quality, but the yield is heavy. Most of the grain is being stored; warehouses are well filled. Growers are holding out for better prices. The first and second crops of hay are mostly in stack; very little being baled or shipped. Potatoes, corn and pumpkins are growing finely. Pasturage continues good. In some sections irrigating water is becoming scarce, while in others the ditches are full.

Southern California.

Berries and other small fruits are becoming plentiful. There will be a fair crop of peaches. Lemons are of good quality. Apricots are nearly all disposed of. Citrus fruits were benefited by cool nights and foggy mornings. Alfalfa on low and irrigated lands is in good condition. The water supply is decreasing. Pasturage continues fair. Sugar beets in Ventura county are looking well. Beans will be a light crop. Corn is making good growth.

Eureka Summary.—Weather conditions favorable for crops along the coast, but rain is needed in the interior. Grain harvesting is now in progress. Wheat, oats and barley are average crops. Apples are not doing as well as expected.

Los Angeles Summary.—Morning fogs, followed by fair, moderately warm days, afforded excellent growing weather for all summer crops. Beans, beets and corn were greatly improved, but harvesting, in instances, was delayed until the sun dried the grain sufficiently for working. Threshing continues, with better results than anticipated for a dry season. Peaches are ripening fast and drying will soon begin; orange and lemon groves, where water is sufficient, are in good condition and the fruit is doing well. The flow of streams, in some places, has been increased since the earthquake last week; water development continues with unabated energy, and in most oases, with satisfactory results.—G. E. Franklin.

The following data for the week ending 5 A. M. Wednesday, August 1, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.00	.00	T	.10	52	62
Red Bluff	.00	.00	00	.04	60	98
Sacramento	.00	.00	.00	T	52	88
San Francisco	.00	.00	.00	.04	52	64
Fresno	.00	.00	.00	T	58	102
Independence	.01	.01	.00	T	60	96
San Luis Obispo	.00	00	.00	T	46	84
Los Angeles	T	T	07	.04	56	86
San Diego	T	T	.00	T	60	74
Yuma	.06	.06	00	.18	74	110

ENTOMOLOGICAL.

Prof. Koebele's Observations.

Many Californians know of Albert Koebele and feel thankful to him for bringing to California the Vedalia Cardinalis, the Rhizobius Ventralis and numerous other parasites which have saved the orange trees and the deciduous fruit orchards from destruction and have put millions of dollars into the pockets of California orchardists. The Oakland *Enquirer* recently interviewed Prof. Koebele, who was formerly in the employ of the United States Department of Agriculture, but who for five years past has been employed by the Government of Hawaii. As already stated in the PACIFIC RURAL PRESS, Prof. Koebele will start in a few days on another journey in search of strange insects, as well as of rare plants and trees. He will accompany Mr. Compere, who goes on behalf of the State of California, and their journey will take them to the Fiji Islands, Australia, Java and Singapore. Mr. Compere will also visit the south of Europe. The *Enquirer* gives many interesting facts about Mr. Koebele's work.

For the Hawaiians.—One of Prof. Koebele's missions will be to collect as many rare palms and other tropical plants as he can find to increase the rich collection already gathered by the Hawaiian Government. For twenty years the little island republic, which was formerly a kingdom, has liberally encouraged the introduction of horticultural wonders from all parts of the world, and sixty-five or seventy species of palms are now growing and flourishing there. Prof. Koebele has been a leading agent in the collection of these species.

The Cane Borer.—Another of his objects in making the journey is to study the operations of the cane borer, a pest which afflicts the sugar growers of Hawaii and other countries. This is one of the few pests which Prof. Koebele acknowledges he is unable to combat by the introduction of insect parasites, and the reason it cannot be fought in that way is that the cane borer lives inside the cane entirely, so that it cannot be reached and preyed upon by other insects. In some plantations the cane borer has reduced the yield of sugar a ton per acre, which means a severe loss, but by studying the habits of the borer Prof. Koebele has been able to advise the planters so that they are now getting the better of the borer by burning the refuse, instead of plowing it into the soil as they formerly did.

The story of Prof. Koebele's achievements in the introduction of insect parasites and diseases is a remarkable one, as everybody who is familiar with horticultural progress on this coast is aware. He is really the pioneer in this field of work, which has been carried further in California and Hawaii than in any other part of the world. In fact, the search for insect parasites as a means for exterminating scales and other enemies of fruit trees may be said to have originated with Prof. Koebele, and about all which has been done in Europe and the Eastern States has been to take advantage of the fruits of his scientific labors.

California's Handicap.—When asked why it was left to California to pioneer the way in this work, Prof. Koebele said that in Europe and in the Eastern States the fruit growers had not suffered to an equal extent with California from the scale and other deleterious insects. He did not believe, however, that there was anything in the soil or climate of California which tended especially to foster such insects more than in other parts of the world, save and except that our mild winters allow scales to live through the season which elsewhere might be killed off by the cold.

But California is a new field for fruit growing, and the injurious insects which were brought were not at first combated by any of their natural enemies. In course of time the balance of Nature would have reasserted itself through the coming of parasites which prey upon the harmful insects, but it would have been tedious and expensive to wait for this natural process, and so it has been expedited by scientific research and the concentration of the natural enemies of these insects. This has been so successfully done that the San Jose scale is now difficult to find in any part of the State. Portions of the Eastern States which have been afflicted with similar pests have borrowed colonies of parasites from California and benefited greatly by so doing. The cottony cushion scale, which had become very formidable in Florida, was cleaned out in this way.

Use of Insect Diseases.—As an illustration of what can be done to exterminate a troublesome pest, Prof. Koebele mentioned the beetle, which formerly ate all the rose bushes in the Hawaiian Islands. There being no convenient insect parasite to destroy this beetle, Prof. Koebele decided that it could be exterminated by introducing a fungoid disease. He found this disease attacking various other species of beetles, and upon going into the mountains he discovered that there the rose beetle also had been attacked by the disease.

Bringing some of the diseased beetles to his experiment station he captured a large quantity of healthy beetles and shut them up with the diseased ones, long enough to infect them all, and then liberated the whole colony. This was repeated as many times and colonies of diseased beetles were sent to all persons who cared to breed them. Some days as many as a gallon of the beetles were sent out, after being infected with the disease. In about twelve hours after the disease attacks a beetle the little animal is dead. This method was very successful in destroying the rose pest on the islands, and it is now possible to grow roses once more in Honolulu.

Last spring Prof. Koebele introduced the beetle disease in the island of Kauai, where the beetles had become so numerous that their holes in the ground made the soil look like a sieve. In a short time after the introduction of the disease there were places where the dead beetles were scattered over the ground so thickly that it looked as if one had gathered a quantity and scattered them by hand.

One of the latest insects which Prof. Koebele has introduced in Hawaii is the Chilocorus Circumdatus, which attacks a great variety of pests. This insect is a particularly deadly enemy of the red and purple scale. So many ladybirds have now been introduced in Hawaii that no fear is entertained of any scale insects becoming destructive there.

How Parasites Are Found.—Two questions which have doubtless suggested themselves to many persons who have read about the search for beneficial insects were answered by Prof. Koebele. One was how he proceeds to discover insects in Australia or China or any other foreign country, which can be warranted to prey upon harmful insects when brought to California. The explanation is simple. Prof. Koebele goes forth into the woods and fields and finds first specimens of scale insects either identical with those which he wishes to exterminate in California or else similar. Then he looks farther until he finds these same insects being preyed upon by their natural enemies. He knows that if a given parasite will feed upon a certain species of scale in Australia it will be likely to feed upon that same scale, or any similar one, in California. One species of parasite will often attack several hundred different varieties of another insect.

The second question is why the search for parasites has been conducted in Australia and other Pacific ocean countries, rather than in the Eastern States and in Europe. Prof. Koebele says that the parasites could doubtless be found in Europe or in the East just as readily as in Australia, but it has happened to be more convenient to go to the Pacific ocean countries for them.

What Other Countries Have Done.—Among the countries which have made attempts to imitate California in securing beneficial insects to exterminate the former's enemies have been South Africa and British India. Some large colonies were taken to South Africa, but Prof. Koebele is not informed as to the merit of the work they performed there.

The coffee and tea planters of India sent an agent to the Hawaiian Islands, who gathered up about 800 ladybirds of five or six different species, boxed them and shipped them to India, and had the vexation, upon arriving there, to find that they had all died. The authorities in British India have offered Prof. Koebele liberal inducements to go into their service, but he has declined, being perfectly satisfied with his present position with the Hawaiian Government.

When asked whether this process of making insect destroy insect could be applied universally to the pests which afflict farmers and horticulturists, or whether success is necessarily limited to certain species of insects, Prof. Koebele said the principle was limited somewhat. All of the scale insects, cutworms, caterpillars and grasshoppers could probably be exterminated by introducing their natural parasites in the form of other insects or fungoid diseases, but there were some insect enemies of vegetation which probably could not be dealt with in that way.

THE POULTRY YARD.

A Few General Considerations.

TO THE EDITOR:—A reader of the PACIFIC RURAL PRESS, whose home is in a distant part of this State, writes for information as to the cost of establishing a poultry plant, the best variety of fowls to raise, the profits of the business and other details. The person making the inquiry has had no experience in raising poultry; but now, wishing for good reasons to change his business, thinks he might profitably raise hens.

Experience Requisite.—Questions identical with the above are frequently asked by the inexperienced, some of whom appear to imagine that anyone can successfully manage a poultry farm. It little matters what business one engages in, one must, to be at all successful, serve an apprenticeship. Experience must be gained by repeated trial and at not a little expense. There is no royal road to success in the poultry yard. There must be a certain aptitude for the business, a genuine love for the work, a determination to profit by mistakes, to persevere, to conquer. If one has not a mind for all this, he had best quit before commencing. "It is the rule that all a man knows must be learned by experience and mostly by failures."

There are so many details in the poultry business, so many things to have in mind, a thousand and one things to do and as many not to do. Season after season passes and the amateur, profiting by the mistakes of the past, develops into the veteran; yet even then he has to acknowledge that he is far from "knowing it all." It is men of this mind who are the successful ones. The topmost round of the ladder in this business is not reached at a bound, nor in one year or two.

Not Such an Easy Thing.—Because there is not much laborious work connected with raising poultry many turn their thoughts in this direction, thinking that it will prove an easy way of earning a livelihood; yet successful progress demands considerable strength of body and that patient endurance which, for the successful prosecution of any industry, is always a requisite.

Theory and Practice.—So many looking upon the poultry business from afar have theories which are accounted perfect in every detail—theories that are very apt to vanish into thin air soon after a start is made. A current journal says: "A man may write his theory for all mankind to read, but, if it is only a theory, what is it worth? Something. It may answer as a subject for mental exercise or as a guide to uncertain experiments. It is necessary to have theories that they may be tested, and, when tried and found sound, they may be ripened as good fruits of experience and packed away with the great mass of scientific facts for future reference. Theories must be backed by experience, demonstrated in the active work of life, in order to have real value."

Not a few persons conclude to go into the poultry business for "health and profit," and ask for information. Each and all may be told the rudiments of the industry, may read books and periodicals, may gain many hints and much information in one way or another, but experience is the one great requisite. Quoting again that which is exceedingly pertinent: "Not every one who engages in the poultry business succeeds in it; there is a knack of the business which, if a man is endowed with, he is certain to succeed. The man who succeeds does not care for the laughs of others at his failures; it is the halting and indifferent man, the one who is weak and infirm of purpose, who is hurt by laughs—and by his non-success."

Not for Discouragement.—This is written to discourage no one. There is money in this business; but no person must expect to engage in it profitably without a genuine love for it, backed with a goodly amount of experience, often gained after repeated failure.

A. WARREN ROBINSON.

Napa, July 22, 1899.

Hints on Incubation.

J. E. Stevenson writes for the *Rural New Yorker* some conclusions from his experience with incubators which may be found suggestive:

Airing the Eggs.—One who advised that airing was unnecessary probably makes a machine with a great amount of ventilation. There are very few machines now with automatic egg-turning devices for turning eggs without removing from the egg chamber, and nearly all authorities prefer taking them out for turning, when they are sure to get a slight airing twice each day. If the change from 103° to 60° or less for the few minutes required for turning is too great, what about the setting hen that must come off occasionally for food and water, even though the temperature is 20° or less? She will stay off in zero weather much longer than the time required to turn the eggs from an incubator. In my opinion the change, if not long enough to chill the eggs, will give stronger chicks than the continually closed machine or the hen that sits more closely. It is much easier to get the desired air space in the eggs when the incubator room is at 50° than when at 80°, and I find it much easier to get out good hatches of strong chicks in the early spring than in hot weather.

Care of Breeding Stock.—If we expect good hatches we must have good, strongly fertilized eggs from vigorous, healthy stock. To get good hatchable eggs we feed very little soft food, and that very light, cut clover hay forming the bulk of it, with about four pounds of ground meat to each 100 hens. At least two-thirds of the grain feed is cracked corn, all grains being scattered in litter during cold weather and sometimes covered with earth in the yards with plow or cultivator when the weather is pleasant, thus keeping them busy as much of the time as possible. Be careful not to overfeed or give much stimulating food intended to force the fowls for heavy egg production. Any refuse vegetables obtainable will be a help.

Location of Incubator.—An incubator should never be placed in a wet or poorly ventilated cellar, nor any place that would be dangerous to the health of human beings. A dry and well-ventilated cellar will answer nicely, as the cellar is not so susceptible to

the sudden outside changes as a room above ground; but if at all damp, it is much better to keep it in a room above ground. Wherever it is kept the air must be kept as pure as possible by ventilation, without strong draughts.

Temperature.—See that thermometers are correct. They should be tested at least once each season. The manufacturers usually use seasoned tubes for incubator thermometers, but I have found it safest to test them at the beginning of each hatching season, and be sure to test them at 102° to 103°, as they might be all right at 80° or 90° and all wrong at 102°, owing to incorrect grading of the scale. The best way to test them is beside a reliable physician's thermometer in water warmed to 102°, carefully marking them if found incorrect. Stir the water continually while testing.

The temperature should be kept as nearly even at 102° as possible, though a frequent variation from 98° to 107° is not so weakening as though running evenly at 105°, as is frequently caused by the thermometer registering too low. I have even had good hatches on two or three occasions when the temperature went as high as 110° and 112° for a short time, due to the poor construction of the regulator. The eggs can stand a much greater variation the last week than the first. On another occasion, with a good machine, I neglected to connect the regulator after cleaning the machine for another hatch, filled it with fresh eggs, closed the doors, and did not see it until the next day, when the temperature was 118°. I then connected the regulator, but after a week's incubation the eggs were apparently as clear as when put in the machine.

Position of Thermometer.—When the thermometer is kept lying on the eggs, as is the usual method, care should be taken that the bulb rests on a fertile egg, and that it contains a living germ. After the first ten days the animal heat begins to develop. During the last week an egg containing a living chick will be 1° to 2° warmer than an infertile egg directly beside it. Thus if the bulb were resting continually on an infertile or dead egg, we would be in the same fix as though the thermometer registered too low, and if changed from fertile to infertile, as would be the case were they not tested, we would be continually adjusting the regulator and wondering why the machine does not regulate itself more closely.

On the whole, I prefer having the thermometer hung just above the eggs. In this way we get the temperature of the egg chamber, and all eggs are subjected to the same degrees of heat, the same as when under a hen. There are some machines, of course, in which they could not be hung in this manner, especially those with the heater tank very close above the egg trays.

THE APIARY.

A Rambling Beekeeper in Southern California.

A southern California beekeeper has plenty of time for rambling this dry year and it is pleasant to find one who can tell of his outing in so charming a manner as one whose rambling we find described in the last issue of the *American Bee Journal*. It has many glimpses of nature and rural life which our readers will enjoy:

Riding Hog-Backs.—This may seem to be a sort of an undignified performance and, indeed, it would be under the common interpretation of the words. But when we speak of hog-backs in this country, there is a variety to select from, and even the most dignified man might mount one of them without so much as ruffling the frills of his dignity.

It is now mid-day, and hot as fury in the sun, and I am sitting in a chair and leaning against a California walnut tree and enjoying its shade. The bees in the apiary close by are humming a hot-weather tune. In yonder clump of bushes a mourning dove is cooing to its mate, a mocking bird is shouting and whistling in a sycamore tree, and a blue jay is trying to be neighborly by picking the crumbs from my table which stands in the open air.

To my left, a canyon leads off to the west; to the front a larger one leads off to the north, and this is subdivided into many other smaller ones. As a consequence of the division of the land into so many canyons or ravines, there are a great number of ridges between them, some of them are quite sharp, hardly enough room for a person to walk. These ridges are called "hog-backs," and when we explore these mountains it is always much more comfortable traveling on the hog back than it is in depths of the canyon, for there we find all manner of underbrush and obstacles.

Honey Plants.—This has been a sort of an alas season for California beekeepers; our bees are making a precarious living, and one after another of our hopes of a honey crop have been blasted. We hoped for a yield of honey from the sage, which was in profuse bloom, but the fogs from old ocean kept hanging over us with their cooling influence until the bloom passed, and then when the sun did exercise its prerogative of shining it was too late for the bees to get any honey.

Sumac is now coming into bloom, and our hopes are reviving again, for the buds are set very plentiful, and the few that are out are immediately visited by the bees. Wishing to explore the extent of the pasturage I set out one morning for that especial purpose. I followed up the larger canyon to the north, and in the lower depths of it, where there was much shade and moisture, the bees were at work upon the wild heliotrope. This is a valuable honey plant, for it is a profuse bloomer, and holds its flowers for a long time. There is a good amount of pentstemon—a trailing shrub, and having brilliant scarlet flowers; the tubes of these flowers are too deep for the bees to reach the nectar below, but there is another variety with white blossoms that are the proper length for bees to find the nectar, and I have an idea that the propagation of this variety would be a good scheme for beekeepers to undertake.

I now climb up an abrupt trail, taking hold of the bushes to aid, and soon find myself upon the lower end of a hog-back. The first thing that attracts my attention is a brilliant spike of white flowers, and I can now see dozens of them scattered over the mountain. They look like plumes, though quite rigid against the influence of the wind. This is the yucca or Spanish bayonet, and I do not wish to get too near it for the needles with which the lower portion of the stalk is armed are not agreeable to run against. Some species of it are credited with secreting a large amount of honey, but these specimens, and especially in this dry season, have not a drop of honey in them, and the bees did not notice the pretty and fragrant flowers.

Wild buckwheat and deerweed, or commonly known as wild alfalfa, abounds more or less upon the mountain side, but the bees are shyly working it, which shows that there is but little honey in it.

The Landscape.—I am now well up to the top of this hog-back, and before I cross over to another let me sit down here and rest, and take in the scenery. Looking to the southwest I have the Cahuenga valley before me; it has recently been shorn of its grain, and there is nothing but stubble field surrounding the buildings on these great ranches. A little later a vile weed—variously known as fleaweed and vinegar weed, but the true name is "blue curls"—will come in quite plentifully. Bees gather much honey from this, and it is a very low grade of honey, but it will be welcome this year, for it is as good as any honey for the bees to winter upon.

Before the advent of the Anglo-Saxon with his enterprise, these valleys were the best bee pasturage in California; the sage here found a depth of rich soil for its growth, and the plants were vigorous, and yielded a greater amount of honey than the plants which grow upon the barren hillsides. That was the condition of the honey pasturage in the early days when Mr. Harbison came to this portion of California and obtained those wonderful yields of honey. Now, the beekeeper is thrust back to the hills, and the valleys are under cultivation.

Beyond the valley is a board expanse, and it looks like a vast blue plain, and sky and plain merge together in the far distances. With a glass to aid our vision the plain would appear to be greatly troubled, and white crests would roll over it. Why, certainly, I see what it is now, it is the grand Pacific ocean! It is six miles from this point of vision.

A little to the south we see Catilina island, twenty-five miles from shore. It was here that Mr. Wood, of Michigan, proposed to establish a queen-breeding station some years ago, but one of California's poor seasons nipped the enterprise in the bud. I do not have much faith in island-reared queens myself, for just as good queens are reared on the mainland now. So many localities are so thoroughly Italianized that the isolation from other races is as thorough as though the breeding queens were on an island.

Laurel Canyon.—We will now cross over into Laurel canyon. Here is a deserted cabin, the window gone, and the door hanging by one hinge. From the number of old, rusty tin cans around the door it is a deserted bee ranch, and weeds are growing where the hives once stood.

Laurel canyon is inhabited to a certain extent, and here we run against a Chinaman's ranch. It is neat and clean, and with an infinite amount of labor he is raising vegetables for the Los Angeles market; but there are no bees here, and there are but few Chinamen that take to beekeeping.

Up another branch of Laurel canyon I find another deserted cabin. The failure of the owner to find water led him to abandon it, and it is even more deserted than the bee ranch below. The building is more or less a wreck. But here I find something that pays me for all my climbing—here in a secluded place is a bush in full bloom, and the bees literally cover it; hundreds of bees are on the flowers of this one bush. The flowers are in clusters, very small, and greenish white. It is the California coffee. The only one I ever saw previous to this when I first came to California, and near the home of Mr. Arundell, of Fillmore. I think it is a rare shrub, and it is doubtful if anyone knows the quality of honey the bees secure from it, but the fact that bees work upon it with such vigor in a dry season proves it worthy of a closer acquaintance and propagation. The gum tree is receiving much attention as a honey producer, why not include the coffee shrub?

A Rattler.—I am on another hog-back now, and our journey is homeward. But, look out! Whi-r-r-r! That is a rattler. Hit him with a club! There, he is done for now. Take his rattles for a trophy. Two before this have been killed this year within half a stone's throw of my apiary.

I am now on the spur of the mountain above the buzzard's roost, and can look down upon the apiary, and a very good appearance it makes. The shade and the little tent look very inviting, and after a few minutes scramble downward we have made the circle of several hog-backs, and are at home again. I found acres of sumac, and wherever it was coming into bloom the bees were present. This gave me encouragement that some honey would be gathered from it. Honey plants of all kinds, in order to make them do their best at honey secretion, need the moisture below as well as above. Only about 10 inches of rain in two years leaves the conditions below very dry, and while we live in hopes for some honey in the immediate future, our hopes are mostly stayed upon the glorious rains that will come to refresh the plants for another year.

CEREAL CROPS.

Wheat and Flour Exports.

The millers of the United States, like its manufacturers generally, have made their banner record in the year 1899. While wheat, corn, oats, cornmeal, oatmeal, rye—and, in fact, all lines of breadstuffs—show a reduction in exportation by reason of the decreased demand abroad, flour alone shows an increase, and not only an increase, but reaches the highest point in the history of flour exportation. For the fiscal year the total exportation of flour is over 18,000,000 barrels, representing over 80,000,000 bushels of wheat, while no preceding year in the history of our exportation shows as great an exportation of flour. While flour is not included with manufactures in the general classification of the Treasury Bureau of Statistics, being retained under the general term "breadstuffs," the fact that American labor and the results of American enterprise enter into its transition from wheat to flour, and thus prove advantageous to labor and business enterprise, adds to the satisfaction with which Americans will note the steady growth in the exportation of flour, even in the face of the reduced demand abroad for breadstuffs. The shortage in breadstuffs in other parts of the world in 1897 and 1898 caused, as is well known, a general advance in prices, and the better crops of the year just passed resulted in lower prices and less demand for our breadstuffs. This fact accounts for the reduction in our exportation in other lines of breadstuffs, and that flour exports should have continued to increase in the face of the reduction in other lines is especially gratifying to those interested in seeing American labor participate as largely as possible in the profits of American exportations.

Prices of Wheat and Flour.—The average price per bushel of wheat exported during the fiscal year 1899 was 74 77 cents, and the average price per bushel for the wheat exported in the form of flour was 87 67 cents, calculating that 4½ bushels of wheat are utilized in the production of a barrel of flour. This adds 12 9 cents to the amount of money received for each bushel of wheat sent abroad in this form, thus bringing to American industry over $10,000,000 during the year as a compensation to the enterprise which transformed the 80,000,000 bushels of grain into the 18,000,000 barrels of flour exported.

A New Industry.—The exportation of flour from the United States has made its chief development since 1875. Prior to that date American millers followed the old process of 1800 in the manufacture of flour, while European millers were experimenting with and bringing to success the modern roller mill methods. As a result, the foreign flour trade of the United States met with serious reverses during the period from 1850 to 1875, European consumers preferring to buy the wheat and themselves transform it into flour by their new process, which the millers of the United States had not then adopted. Writing of this period of depression in the export trade of American flour, Charles A. Pillsbury says that, "while our millers in 1854 sent 1,846,000 barrels of flour to Great Britain alone, they sent in 1865 only 200,000 barrels to all Europe," and that "while during the five years ending with 1830 over 99% of the value of wheat and flour exports was flour, in the five years 1870–75 only 27 8% of wheat and flour exports was flour." In 1875 the exportations of wheat flour were 3,973,128 barrels; in 1880, 6,011,419 barrels; in 1885, 10,648,145 barrels; in 1890, 12,231,711 barrels; in 1895, 15,268,892 barrels; and in 1899 will be about 18,300,000 barrels, the exact figures having not yet been completed by the Treasury Bureau of Statistics.

In the Orient.—While there is a gratifying increase in the exportation of flour in every direction, the

most strongly marked growth is toward the Orient. The exportations of flour to Hongkong in the year 1899 will considerably exceed 1,000,000 barrels, while in 1889 the number was but 378,634. Flour for Hongkong goes mostly to China, though considerable quantities are shipped direct from Hongkong to Japan, the Philippines and various islands of Oceanica. To Japan direct our exports of flour have grown from 19,677 barrels in 1889 to about 225,000 in 1899; to all Asia, from 418,353 barrels in 1889 to about 1,750,000 barrels in 1899. To South America the growth has been less rapid, the total for 1889 being 1,068,167 barrels, while that for 1899 will be but a little more than the figure of a decade ago. Germany, to which we sent but 13,009 barrels of flour in 1889, takes in 1899 nearly 500,000 barrels, this being a large increase over last year. Netherlands, to which we sent but 92,260 barrels in 1889, took in 1898 over 1,000,000 barrels, the figures for 1899 not being yet completed. To the United Kingdom our exports of flour in 1889 were 5,271,244 barrels, and in 1899 will exceed 10,000,000 barrels.

THE DAIRY.

The Tuberculosis Senstation in Illinois.

Secretary of Agriculture James Wilson is now on California. While passing through Chicago, he had an interview with a representative of *Orange Judd Farmer*.

The Tuberculosis Problem.—"I see," said the Secretary, "that Illinois is now in the midst of a scare over the tuberculosis question. There is no question but that the selling of milk from diseased cows should be stopped. The conservation of the public health demands it. There is danger, however, that when a question of this kind is suddenly thrust forward action altogether too radical and not justified by our actual knowledge of the situation is likely to be taken. The tuberculosis question has not yet been studied long enough to warrant us in claiming absolute knowledge, and in the absence of scientific exactness it will be well to make haste slowly in the matter of slaughtering herds. It is acknowledged by the best authorities that where there is slight reaction after the test the animal should be isolated and treated for purpose of affecting a cure, it being, of course, understood that during treatment of such an animal the milk should not be used. A cow but slightly affected may rear a healthy calf, and in the case of high grade dairy cows this alone should warrant great care in the mater of indiscriminate slaughtering.

Public Sentiment.—Unless the responsible officials in Illinois take heed of the experience of other States where the matter has already received much attention, notably New York and Massachusetts, they are likely to run counter to such a public sentiment as will prevent their even accomplishing such work as is absolutely necessary. Nothing can be done in this country unless public sentiment favors, and public sentiment will revolt from any indiscriminate seizure of private property unless it be absolutely beyond all question that the conservation of the public health demand it. You must first be certain that your officers charged with the making of the tests are scientifically capable, and not every man who claims to be a veterinarian is competent to properly make the tuberculin test. Of course public health demands the immediate slaughter of animals in advanced stages of the disease, but when you recall that such slaughter is in effect confiscation of priate property the necessity for great caution in carrying on such a crusade is apparent.

"Another thing. So long as the action is taken for the public good, the same public should bear the cost entailed. Unless the State arranges to compensate the owner of cattle condemned, owners of such cattle will hide them and evade examination of their herds. It is human nature. My advice to Illinois officials is to go slow and be sure of their ground before any drastic action is taken. The use of all milk from cows affected with tuberculosis should be prohibited, but there is need for great caution in the matter of slaughter. An indiscriminate raid, in which overzealous officials shall be found to have sacrificed valuable cattle unnecessarily, will cause such a reaction in public sentiment as will tend to prevent a reasonable and proper execution of absolutely nenessary sanitary regulations.

The Tuberculosis Congress.

N. B. Franklin prepares for the Jersey Bulletin an interesting statement of the results of a convocation which is of very great indirect importance to dairymen. An international congress of physicians was recently assembled in Berlin, Germany, to consider tuberculosis in man and animals, before which were read a large number of papers from many of the most eminent physicians and scientists of our day. While no startling discoveries are announced and no new protective precautions suggested against the spread of the disease, much good has been done toward completing our knowledge of the real nature of tuberculosis. Among the facts brought out in bold relief and substantiated by irresistible evidence are three:

First, that tuberculosis is not hereditary.

Second, that the mortality of the disease has been reduced 36% and (among adults in England) 45%.

Third, that tuberculosis, if taken on its first discovery and in its earliest stages, is one of the most curable of diseases, as well as one of the most easily preventable.

So irresistible is the proof that the spread of the disease is due entirely to improper sanitation and alimentation, that there are good and reasonable grounds for hoping that with a general knowledge of rigid enforcement of public and private sanitation and personal hygiene, accompanied with the use of wholesome food, this dread scourge may in time entirely disappear.

In this congress considerable was was said about the spread of tuberculosis by the feeding of milk to infants and young children, but the evidence in support of this source of infection was not overwhelming by any means. Not a few among the best informed believed that the frequency of infection from cow's milk was very much exaggerated, and some went so far as to doubt if any genuine case of actual transmission of tuberculosis from cow to man through the use of milk had ever been observed.

The greater percentage of cured cases among adults, as compared with infants, is easily explained by the life conditions of adults being so much better adapted to sanitation and personal hygiene. The bad quarters of infants, combined with the lack of nutritious food (excluding milk), have far more to do with the greater mortality of infants and children than the milk they drink.

That it is dangerous and therefore criminal to feed infants or adults upon milk from diseased cows, there can be no question. But while all reasonable measures should be taken to keep such milk from being used, it is unreasonable to preach a crusade of death against every cow that coughs, or that some patent-made veterinarian may pronounce to have tuberculosis.

What is true of men is also true of cattle: Taken in time and properly treated it is one of the most curable of diseases. Proper treatment simply demands clean, wholesome quarters and abundance of healthful food and plenty of direct sunlight in the open air.

Humboldt Creameries.

E. L. Colnon sends to the Stockton *Mail* some observations of dairy progress in Humboldt county: That the dairy business is growing is shown by the fact that in June of last year the exports of butter aggregated just 134,320 pounds less than this year. As further showing the growth of the industry, the books of the county assessor give the number of cows in 1895 as 15,088; in 1896, 17,086; in 1897, 18,330; while this year the number is 19,311. The increase of the industry is limited only by the possibilities of the land. Every available acre is devoted to pasture and every effort is made to increase the productivity of the acreage in use. The productivity is of course naturally high, on account of the perennial moisture and unfailing heavy annual rainfall.

The business is increasing because it pays. The very best spots support a cow to the acre, but the average is a cow to each acre and a half. The butter is shipped all over the coast, going east as far as Chicago. In the year 1889 the aggregate exports of butter were 1,078,000 pounds; nine years later, or in the year 1898, the exports were 4,172,000.

The introduction of creameries in Humboldt, which took place about ten years ago, imparted a new and distinct impetus to butter making. There are now thirty creameries in the county, which are not only a convenience to the dairymen, but a source of economy in working up the raw material. Happily for the dairyman, they are themselves owners in the creameries, which not only insures them against excessive exactions, but returns a nice income from the investment. A local authority gives 10% a year as the profit of the creameries upon the capital employed.

Milk Dilution Separators.

Within the past few months there has been introduced to the farmers of Indiana what is termed a dilution cream separator, and the Purdue University Experiment Station has issued a bulletin on the subject. This is not a separator as commonly understood by dairymen, where cream is separated from milk by centrifugal force, but is a specially constructed can, usually of large size, in which cream separates from milk by raising to the surface by the common gravity process. The principle of creaming in this can, however, differs from that usually performed in the dairy, through the mixing of water with the milk to assist the cream to rise. These specially made cans have certain peculiarities of construction and are advertised by the makers as "cream separators." The cans of different manufacturers differ in form and style, but the principal feature with all is to fill the can partly full of new, warm milk and then add at once a large quantity of cold water. This, of course, dilutes the milk, perhaps 100%. In this diluted condition, the claim of the manufacturers is that the cream will rise more completely and rapidly than if not diluted; that in twenty to thirty minutes it will all rest on the surface of the skimmed milk, which may be drawn off from below.

In 1893 the Indiana Experiment Station for two weeks carried on an experiment on the influence of dilution of milk on efficiency of creaming. The results of this work, as published in Bulletin 44 of the station, were that a greater loss of fat occurs in skim milk when dilution is practiced than with undiluted milk, that the loss is greater with cold than with warm water, and that by diluting the milk a poorer quality of skim milk for feeding is thereby produced. These results were in accordance with conclusions arrived at through similar experiments at the Vermont, Cornell, Illinois and Ontario college stations. The process of dilution was not to be recommended as a general practice.

But, if the farmer wishes to secure the same results advertised by the makers of these cans, he may obtain them by diluting his milk in a comparatively inexpensive, round can, such as may be secured of any reputable dairy supply house, or can be made by any good tinsmith. Such a can, however, should have a faucet in the bottom, through which the skimmed milk may be drawn.

THE Dairy Division, Department of Agriculture, has undertaken to exploit new markets for our dairy products, and has done some preliminary work towards finding agents in Oriental ports for the handling of shipments. Mr. S. E. Watson, secretary of the California Dairy Association, has recently been selected to oversee the shipments from San Francisco, and is now working under instructions on important work. The goods are now nearly all in this city, awaiting directions for reshipment to the Orient. Eastern butter and cheese have been selected, for the reason that the best California class of goods are not put up in safe packages for introduction in comparison with such goods from foreign dairy countries.

THE FIELD.

Cheap Handling of Alfalfa Hay in Nevada.

Col. Joseph Marzen of Lovelock, Nev., recently received an inquiry from J. W. Schmitz, foreman of the Miller & Lux Bonanza farm in California, asking how it was that alfalfa hay is harvested more cheaply in Nevada than in this State. In publishing this letter the Lovelock *Tribune* explains that the secret lies in doing away with the buck, and adds:

Hay here is cut and stacked for about 85 cents a ton. Even this is a great saving from $2.10 a ton, which Mr. Schmitz admits it costs them in California. It means that for the crop of 24,000 tons last year it cost the ranchers $30,000 less to stack it than by the California method. A buck is doing well if it takes four bunches to the stack, and it often falls short one. We load from twenty-five to thirty on a wagon. It takes the same number of men and horses to a buck that it does to a wagon, and the former will not make many more trips than the latter. It takes more men for a full wagon crew than by the other method, but they handle more hay.

Stacking Derrick.—This valley has another great improvement over California in the stacking derrick. When the buck arrives at the stack its load is taken up a rigid pole by two horses and all are dumped in one place. Then it has to be stacked by hand at great labor.

In Lovelock, with the swinging long-armed derrick, a single horse takes up a wagon load of hay in about four forkfulls, and it is placed by the derrick exactly in position on the stack without further handling. Thus our people swing about thirty haycocks into the stack in about the same time that it takes California to unload one buck of three or four, and with far less trouble. Our checks are twenty steps apart (60 feet) and a foot or two high. Dirt crossings are made for the wagons, and when it comes time to irrigate again they are dug out. From four to seven wagons are used, according to the distance the hay has to be hauled to the stack. The object is to have a wagon unloading at the derrick all the time.

It requires five or six minutes to unload, or about a minute for each forkfull. By using a net, Col. Marzen has taken up a whole load at one time. But in such bulk it does not stack well. The Winder derrick drops the forkfull on the stack anywhere within 30 feet of the mast. Four men comprise the loading force in the field. Two men finish the load on the first wagon while the other two are loading the first half on the second wagon. The third wagon comes on, the first drives to the stack and the second one moves up to the place of the first. This is the order all day.

These are the expenses: Col. Marzen says that the cost of stacking may run up to $1. He has, however, with a crew of fourteen men, stacked 140 loads, or tons, in a day.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

NEW STARCH FACTORY.—*Argus*, July 26: Alameda has one of the only two starch factories on the Pacific coast. The proprietors of the new enterprise are A. A. Cunningham and Fred Jenkins. Their only local competitor is the Berkeley factory, which manufactures only a laundry starch. The process used is a new one developed by Mr. Cunningham. All fermentation is prevented and the flour in the tanks is treated chemically. From the first tank the flour, after being treated for two days, is run through a shaker which separates the coarse "dirt." The starchy residue is run over a long series of ways like the flumes of a placer mine, and the starch lodges. It is then deposited in a refining tank and treated again. It passes next through another shaker and then into a finishing tank. The starch is picked up from it into wooden boxes and left to drain. Afterwards it is placed in squares on tiers of bricks, which absorb much of the moisture from it, and finally the starch goes into a drying house and comes out a finished product. All that remains to be done is packing into boxes. The factory has a capacity of two tons per week.

Butte.

BANNER WHEAT CROP.—Biggs *Argus*, July 28: J. S. Henrison's crop of 280 acres of wheat, which includes winter sown, summer-fallow and volunteer, turned out 3288 sacks, an average of twelve sacks to the acre. A portion of the grain produced upward of twenty sacks per acre. Mrs. Dora E. Riddle has the banner wheat field this year. From a quarter section on the adobe she has just harvested 3520 sacks of wheat, which is an average of twenty-two sacks per acre. This is the largest wheat yield per acre so far reported this year.

MUCH WHEAT IN STORAGE.—Gridley *Herald*, July 22: Both warehouses are rapidly filling up. J. H. Jones will have on storage over 75,000 sacks, and the F. & M. warehouse will do nearly if not quite as well. The holding of so much old wheat by the owners makes the warehousemens' business unusually brisk this season.

SALE OF DAMAGED WHEAT.—Chico *Enterprise*, July 25: Last evening bids were received for the wheat from the recent fire at the Sperry Flour Co's. Mills in this city. In all there will be about 12,000 sacks, and it was graded as Nos. 1, 2, 3 and 4. Bids were accepted from John Dillon, representing Miller & Lux; Geo. P. McNear and J. F. Fairbanks of Petaluma. Mr. Dillon's bid, which secured the pile of wheat, was as follows: For the grade designated as No. 1, $15 per ton; No. 2, $14 per ton; No. 3, $13 per ton, and No. 4, $6 per ton.

Fresno.

FIG FIGURES.—*Republican*: Last year there were 150 carloads of figs packed in Fresno. This year's crop will amount to from twenty-five to fifty cars more, and most of the figs in years past planted in this county have been intended for shade trees, with no idea of marketing. Thus a large part packed is taken from the trees that border drives and walks of vineyards and farms. One man sold $700 worth of figs from the trees on his roadways.

MUTUAL INSURANCE COMPANY.—*Republican*, July 27: Articles of incorporation of the Scandinavian Mutual Protective Association have been filed. The object of the incorporation is to insure its members against loss by fire. The following directors were elected: A. Haliner and J. L. Norman, Parlier; John Swenson, Fresno; E. G. Rosendahl, P. A. Johnson and O. Davell, Kinshurg; A. Stone, Selma; A. G. Erickson and O. Olsen, Reedley.

GRAIN CROP.—*Republican*, July 27: Sheriff Collins this year had 2300 acres sown to wheat and is now harvesting the grain. The land is in the Dry Creek country and will yield about five sacks to the acre. According to a very conservative estimate, Mr. Collins figures that he will have at least 10,000 sacks of wheat. He has an 18-foot cut combined harvester, drawn by a thirty-mule team. The mules are hitched three abreast, with the wheelers hitched free from the tongue. The machine cuts about thirty acres a day. Mr. Collins is of the opinion that the grain crop throughout the county will average five sacks to the acre. The farther toward the hills one goes the better the grain looks. In the Dry Creek and Clovis neighborhood the crop will run between five and six sacks to the acre. Near Academy it will go more, while at Clovis it is a little less. In the Reedley country there are very promising fields of grain. Mr. Collins states that he is about half through harvesting. Most of the large farmers are in the same fix. Most of the grain is being stored.

Humboldt.

PAY DAY AT THE CREAMERIES. — Arcata *Union*, July 22: Last Saturday the creameries paid off, and the price was better than for a long time past. The Arcata Creamery Co. and Silva paid 20 cents a pound for butter fat, while Harpst & Spring, Minor and Lovern paid 19¾ cents.

PRODUCE EXPORTS.—Eureka *Standard*: The exports of county produce for the first half of 1899 lead those of any previous year. The increase in the shipments of the leading items is seen in the following comparison of half years:

Year.	*Butter.*	*Wool.*	*Apples.*
1894	1,260,300	290,170	7,478
1895	1,482,140	231,950	10,978
1896	1,608,325	167,405	5,371
1897	1,559,150	77,800	2,246
1898	1,523,555	19,050	12,568
1899	1,916,700	479,370	18,215

The comparison of the produce exports for the first half of the present year with those of the same period last year shows:

	1899.	*1898.*
Butter, pounds	1,916,700	1,526,555
Condensed cream, cases	3,025	53
Condensed milk, cases	2,914	2,107

Kern.

GRAIN YIELD.—Delano *Record*: There is much disappointment over the outcome of the grain crop in this section. The yield is from 25% to 50% less than was expected up to the time of threshing. The cause given is the extreme hot weather following a shower of rain and while the grain was in the dough. Late grain is turning out the best.

Kings.

IMPROVING THE HERDS.—Hanford *Sentinel*, July 27: The tendency among our stock men is to improve their herds. A shipment is here of Jersey and Holstein cattle for breeding purposes, and is to be followed in a day or two by a carload of Shorthorn bulls from Sacramento, all having a guaranteed breeding record.

Lassen.

DISTRICT FAIR DIRECTORS NAMED.—Sacramento, July 25: Governor Gage to-day appointed the following directors of Agricultural District 43 (this county): C. E. Emerson, Wm. Brockman, J. H. Holl, Chas. Clark, W. G. Bromly, Jas. Snell, F. M. Rolland and W. E. Dozier.

Los Angeles.

HOMING PIGEON ASSOCIATION. — Pasadena *Star*, July 26: There has been organized in Pasadena the Southern California Homing Pigeon Association, the purposes of which are to raise and race pigeons. The officers are as follows: Horace M. Dohbins, Pres.; Victor L. Ward, Vice-Pres.; Jos. J. Blick, Sec'y; Horace M. Dohbins, V. L. Ward, Jos. J. Blick, Thaddeus Lowe and Jas. H. Campbell, directors.

Orange.

CANNING NOTES.—Anaheim *Gazette*, July 27: The cannery has shipped out seven carloads of canned apricots and there yet remain about fourteen carloads to ship. Yesterday the cannery shipped 1000 empty picking boxes to Fresno, where Mr. Weisel has purchased 100 tons of Lemon Cling peaches. Freight on these peaches cost $6 per ton, and the fruit laid down here comes to $28. A carload of San Diego peaches is expected to arrive to-day, and another car on Saturday. Two of the carloads already shipped out go to Havre, France.

Placer.

FRUIT GROWERS ORGANIZE.—Newcastle, July 22: At a meeting of the Fruit Growers' Association of Placer county George L. Threlkel said the object of the meeting was to adopt by-laws for the new corporation. He said: "The sense of the meeting of June 28 was favorable to a two years' crop contract, but the contracts shall not be binding until 70 per cent of the entire crop of the county shall be under control of the association." After the reading of the minutes of the last meeting the agreement of the growers to become members of the association were presented for the consideration of those who had not already signed the membership roll. Quite a number signed, each setting opposite his name the amount which he was willing to pay monthly for the next five months to assist in paying the expenses of a man to make a canvass of the county to obtain a large enough membership to warrant the association doing business during the coming season. These amounts are to be considered as loans and to be paid back by the association. The membership fee was placed at $10. The by-laws, formulated after those of the Fresno Raisin Growers' Association, were adopted. Officers were elected as follows: President, George L. Threlkel; vice-president, W R. Fountain; secretary, G. Geraldson; treasurer, C. H. Kellogg. The by-laws provide that principal place of business shall be Newcastle, and that the term of existence shall be fifty years.

Riverside.

SANTA ROSA RANCH SOLD.—San Diego *Union*: The Santa Rosa ranch has been sold by Gordon & Goodwin of this city to Mr. Parr, a prominent English capitalist. The price paid for it is $225,000. The ranch contains 46,000 acres of land.

San Bernardino.

BEET SUGAR CAMPAIGN.—Chino *Champion*, July 28: The probabilities are that there will be no sugar made by the factory here this year. The unusual deficiency in the rainfall is the cause. Until four weeks ago prospects were good for a crop of 30,000 tons of beets. A few hot days, however, checked their growth to such an extent that that the crop is estimated at but 15,000 tons. It is planned at present to ship these to Oxnard for manufacture. In case the factory is not operated the Chino crop of beets will be received at the factory, weighed, sampled, tared, analyzed and unloaded from the driveway into the cars instead of into the sheds.

PRICES FOR MILK RAISED —Chino *Champion*, July 28: The Chino Valley Creamery Association announces that it has raised the price of milk from 85 to 90 cents per 100 pounds of 4% test when butter sells for 25 cents per pound. The creamery is now receiving about 7800 pounds of milk daily, and is using it all in the manufacture of butter.

SHEEP PASTURAGE.—*Times-Index*, July 28: All the sheep have left the valley again and the forest patrols are having a little more leisure. Most of the flocks came from San Juan Capistrano and El Toro, in Orange county, and have been taken back there for the remainder of the year. When the grass began to grow in the early spring the sheepmen started their flocks for San Bernardino, thinking that they could take them up into the mountains as they did last year and the year before. In this, however, they were disappointed, for the forestry officials were determined that the law should not be violated any longer, and the result was that, after grazing off all of the pasture land that could he rented, the sheep have been taken home to feed on the grain stubble.

WATER FILED ON RECORD.—*Sun*, July 23: An important water filing has been placed on record, in which W. L. Spoor, trustee, lays claim to 10,000 inches of water from the flow taken at the mouth of Holcomb valley, to be diverted at a point on the south bank of the mouth or entrance to Holcomb valley. This water is to be used for irrigation at Redlands, Crafton, Highland and in San Bernardino county and taken there by means of a dam 60 feet high and 614 feet wide on the top and a series of canals and pipe lines having the capacity of 10,000 inches of water.

San Diego.

INEXPENSIVE WIND ENGINE.—*Union*, July 27: The wind engine invented by C. A. Favel of Sunnyside, is built cheaply and combines the qualities of steady motion with power. Mr. Favel constructed it to overcome the runaway motion of all wind wheels, wherehy there is much lost power. At a distance it looks like a juveniie Ferris wheel, and the principle upon which it works is that the upper wings are always in the wind, the lower ones always in the enclosed 10x32 building in which it runs; the arms turning horizontally, the ends of the building being enclosed to a height of 16 feet, the arms of the mill being 30 feet, gives it a broad, slow sweep turned by the lightest wind. The entire mill was built by Mr. Favel and the cost was about $30.

GREEN FEED FOR WINTER.—*Union*, July 27: Hon. H. W. Cottle of Escondido says that after spending considerable money and enduring much disappointment in the matter of finding a crop that will thrive in our climate in the winter months, make an abundance of green feed or material for green-manuring, will grow on our hillsides where almost everything else will fail, make an excellent root protection against washing, he discovered Canadian peas and oats. Put in the peas first, after well plowing the ground—which may have to be deferred till after the first rain—ten days after sow the oats, and the two will make an excellent crop.

San Joaquin.

LODI MELONS.—Stockton *Mail*, July 26: Sprague Gillespie of Lodi brought in a load of watermelons this morning, which sold for $1.25 a dozen. His wagon was soon surrounded by an eager crowd, for this was one of the first loads of Lodi melons that has come in. Mr. Gillespie has about fifty acres of melons, and says that there are very few planted out that way, on account of the late frosts and dry weather. The low prices of last year also deterred many from planting melons this year.

RUNAWAY HARVEITER.—*Mail*, July 28: J. L. Franklin of Woodbridge told of a lively runaway of his combined harvester team of twenty-four horses. The breaking of a chain started the team and when the sack sowers threw on their brake it broke, hurling them from the machine and bruising Henry Heckler considerably. Mr. Franklin, who was driving, tried to put on the driver's brake, but it would not hold, and the team ran for about 150 yards, until the horses were piled up in a struggling mass, with two of them on their backs under the combined harvester. One horse had the wounds of seven header guards in his shoulder, but will recover. The header runner and the separator tender narrowly escaped being thrown from the machine, but at last everything was straightened out without any very serious damage. "I tell you," said Mr. Franklin, "it makes your hair stand on end to sit up on that seat over a team on the dead run, with some of the horses falling and kicking, and the machinery buzzing behind you, and nothing to do but hold on and pull in your leaders. You don't get rattled, though, till it's all over. You don't have time."

IRRIGATION AT WOODBRIDGE.—*Mail*, July 27: The Woodbridge canal is again in operation, and a big head of water is running in the ditch to the land of Cornelius Swain, about six miles from Stockton. Ever since the cave-in workmen have been enlarging the supply ditch, and representatives of the Krogh Manufacturing Co. (who put in the big pump) have been putting it in first-class order. Last Tuesday the pump was started again, and it is estimated that at least 25,000 gallons a minute are coming out of the 36-inch delivery pipe. As it is, a stream of water 30 feet wide and about 3 feet deep is running down the canal. Mr. Swain reported that he was irrigating, with a good head of water, 147 acres of alfalfa, and his son on an adjoining place has fifty acres. It is expected that these tracts will be finished within three days, and the water will then he turned into the north branch of the canal, and the farmers west of Woodbridge will be served.

Santa Clara.

CANNING ITEMS.—The Los Gatos *News* gives some facts concerning the Los Gatos cannery. About 400 men, women and boys are employed. Two thousand tons or 4,000,000 pounds of fruit have been contracted for. The daily output is from 43,000 to 54,000 cans. Granulated sugar to the amount of $500 per day or 100 barrels per week, is used. The average expense of running this factory, including help and material, is $5000 per day. About four carloads of canned fruit have already gone to Liverpool, England.

MANY PRUNES BURNED.—San Jose *Mercury*, July 31: A disastrous fire which broke out in the fruit warehouse of J. B. Inderrieden Company, caused the loss of about forty carloads of prunes. Castle Bros. warehouse was also destroyed. Total loss is $40,000; insurance, $27,000.

Santa Cruz.

NEW APPLE EVAPORATOR.—Watsonville *Pajaronian*, July 27: Four of the heaviest packing firms—Scurich Bros., F. P. Marinovich & Co., Pulisevich Bros. and N. Banaz—have united to build and operate a new apple evaporator. They expect to run largely on stock from the orchads purchased. A Penniman drier has been ordered, and the evaporator will be in operation early this fall.

Solano.

GOOD GRAIN YIELD.—Sulsun *Republican*, July 28: The results of the grain harvest are exceeding in many cases the most sanguine hopes of the farmers, and now that the grain is coming in we hear of some extraordinary yields. The latest to be reported are on the 100-acre tract of A. A. Dickie and the 120 acres of Richard Crater in Suisun valley. From the former 1700 sacks of grain were realized, or seventeen sacks to the acre, while the latter netted 1600 sacks, or thirteen sacks to the acre. This is considerably over the average and shows what Suisun valley can do when the season is favorable.

BEES IN A HARVESTER.—Dixon *Tribune*, July 28: It isn't often that a swarm of bees in search of new quarters selects a harvester as a location for the manufacture of their product. Several days ago, while Hugh McDonald was operating his harvester in the field, a swarm of the insects attempted to settle on the head of a man employed on the machine, whose duty it was to tend header. The header tender did not relish the idea of being turned into a beehive and vacated his position. The noise of the machinery had the effect of heating on a tin pan in the presence of the swarming bees, and they pursued the harvester for a distance of half a mile. They finally settled on the rear end of the machine, which was stopped and the bees captured.

Sonoma.

IRRIGATION ENTERPRISE.— Healdsburg *Enterprise*, July 27: Irrigation of orchards is attracting considerable attention. Around Geyserville several orchardists are watering their orchards this summer. E. D. Smith, W. V. Griffith, Clayton Hammill and J. E. Metzger are irrigating from dug or driven wells, the water being forced to the surface by a pump run by a gasoline engine. Mr. Smith has his irrigating apparatus mounted on sled runners and hauls it from one well to another, or over to his neighbor's orchard. Mr. Smith's pump will draw about 6000 gallons of water per day. It is run with a 2 H. P. gasoline engine, which consumes from a gallon and a half to two gallons of gasoline at a day's run. He has 300 feet of 2½-inch condemned fire hose, and from the hose the water is run into plowed trenches along each row of trees. The Geyserville wells, all on the river bottom, are about 14 feet deep and give an abundant suppy of water. All of the orchardists are well pleased with the showing made thus far, and a larger acreage will be irrigated next year.

Stanislaus.

FERTILIZING WHEAT LAND.—Modesto *Herald*, July 20: Our Consul at Adelaide, South Australia, in response to an inquiry, had written Attorney Thos. S. Wilson of San Francisco to the effect that the South Australian farmers are doubling wheat production by drilling in fertilizer with the seed. So little fertilizer is necessary under this method that we feel confident our own farmers may pursue the same process without fear of the wheat "burning," even though rains here in the valley are light. Indeed, we have an idea that the South Australian wheat fields receive no more rain than our own. Adelaide, on the coast, bears the same relation to the wheat district that San Francisco does to our own, and the average rainfall at Adelaide is 20 inches. Let a few of our farmers send samples of their soils to the State University for analysis, learn in what elements it is lacking, obtain the proper fertilizer and plant an experimental acre here and there in conformity with the South Australian process. The suggestion that comes to us from over the seas may be worth millions.

OREGON.

TILE DRAINAGE.—Oregon *Agriculturist*: The use of tile drainage is steadily increasing in the Willamette valley. There are many farms which do not need artificial drainage, but there are thousands of farms in the valley whose productiveness will be increased from 50% to 100% by good under-drainage. The contrast in the growing crops on a tile-drained farm and one adjoining, which has not been tile-drained, tells the story so plainly that the tile is bound to spread from every center where it is introduced. The farmer on the tiled farm has also the advantage of being able to work his land when he could not do so if it were not drained. This is an item of much importance in western Oregon, where it is often difficult to get the crops in at the proper time without injuring the land by working it when it is too wet.

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THE HOME CIRCLE.

"I'll Do What I Can."

Who takes for his motto "I'll do what I can"
Shall better the world as he goes down life's hill;
The willing young heart makes the capable man,
And who does what he can oft can do what he will.
There's strength in the impulse to help things along,
And forces undreamed of will come to the aid
Of one who, though weak, yet believes he is strong,
And offers himself to the task unafraid.

"I'll do what I can" is a challenge to fate,
And fate must succumb when it's put to the test;
A heart that is willing to labor and wait,
In its tussle with life, ever comes out the best.
It puts the blue imps of depression to rout,
And makes many difficult problems seem plain;
It mounts over obstacles, dissipates doubt,
And unravels kinks in life's curious chain.

"I'll do what I can" keeps the progress machine
In good working order as centuries roll,
And civilization would perish, I ween,
Were those words not written on many a soul.
They fell the great forests, they furrow the soil,
They seek new inventions to benefit man;
They fear no exertion, make pastime of toil.
Oh, great is earth's debt to "I'll do what I can."

—Ella Wheeler Wilcox.

A Poor Courtship, But——

"Ah, me!" sighed Margie Harrison. "Out there is blue sky, and sun, and fresh air, and a little farther on is grass—and trees. It is spring everywhere except here."

"Out there" was the glimpse of light that came to her, far down the crowded shop—just the little light that crept in under the awnings, and over the heads of the shoppers, to the cashier in her box.

"I know how a canary feels, now!" she went on, to herself.

She was not idle as she soliloquized, for her hands were busy making change for the cash boys. Below her platform, shoppers pulled about the goods and harassed the assistants who, in turn, hectored the boys and girls. Above the conversation, the rustle and clatter, came sharp cries of "Ca-ash!"

Margie was a slender little girl, with pale cheeks that hardly ever saw the sun—so pale that they accentuated the brightness of her dark blue eyes and the brown hair that Nature had roughened becomingly.

For the rest, her mouth would have been kissable, had there been anyone to attend to the matter; and her round chin was softly dimpled.

But no one ever stopped to think that she was good to the eye, that is, except the dapper young shop walker fo that department, and him she had snubbed into a secret enmity—for she was only part of a machine, a whirling, noisy beehive, with never a drone inside its walls.

They were not people; they were employes, and they worker under a masterly rule that made the great business a success, but stole the individuality of the workers.

"I can't stand it another year," she said despairingly. "I wasn't made for darkness. It isn't the work, for I expect to work; it's the withering—heart and soul. I'll go to work in somebody's garden; I'll—I'll wheel a barrow—anything to be outdoors!"

She sighed again, and glanced contemptuously at the light bulb above her, that seemed to make the atomsphere more smothering as she continued her duties.

She knew little about sunshine. She lodged with her only brother, who lived so far from the Emporium that she could not walk, but must reach her work by means of the omnibus. Luncheon was served the employes in a basement room where lights burnt all day; evening found her riding home to the top room, where she slept.

All her stray glances were directed down the tunnel-like aisle toward the light, so she did not see a young man who stood near by, looking about in a half confused way, until she turned and caught his eye. His cheeks were tanned, his eyes blue, and he looked kind and honest, so she smiled. He stepped forward and spoke over the heads of the cash boys.

"I want to get a black gown for my mother—something thin, with violets on it, to look like the country. Can you tell me where to go?"

"Yes, sir," she answered, "Go down the next aisle to the right—the end counter. There are lawns and muslins there with voilets that you can almost smell."

"Thank you, Miss," said he, partly turning. Then, facing her again: That's about the only kind of flowers you who serve in shops get a chance to see, I expect."

"Yes, sir," she answered, smiling again, "and it isn't living to shut ourselves away from the spring like this."

"I know it," he replied with rather shy sympathy. "I couldn't stand this myself. "I'm from the country—keep a farm. Give me a pasture with cattle in it, and grass just covered with blte spider wort, pink sensitive roses, larkspur. It beats a city."

"Oh-h-h!" gasped Margie at the thought of so much sweetness. "Think of flowers free for every one to pick, and——"

"Ca-ash!" called an impatient boy, and just then the shop walker discovered the youug man at the desk and stepping up to him touched him on the shoulder:

"Against the rules, sir." Then, to Margie, "Miss Harrison, you should know better than this."

Margie colored as she explained:

"This gentleman wants to see figured black lawns and——"

"When another customer asks such a question, refer him to me," answered the shop walker.

With a look of friendly regret, and a protestation that he, himself, was to blame for the breach of rules, the young man suffered himself to be directed to the other end of the shop.

The next morning the spirit of unrest burned again in the girl's heart, and again she repined. But a wonderful thing happened. The tanned young countryman made his way down the shop towards her desk bearing a beautiful burden which he pushed through the window without a word, but with a sympathetic, brotherly smile on his face, and then turned and left the building.

It was a basket of pansies embedded in damp moss—wonderful, velvety faces in purple, bronze and yellow, lookingly smilingly at her.

It was the happiest day of her life, a never-to-be-forgotten day. She could not long for the woods when a marvelous bit of the woods had come to her.

The next morning a cash boy brought a great bunch of spring violets.

"A fellow from the country give me a copper to bring you these," he explained.

Again Margie was in transports, but—the stranger might have brought them himself. She missed his cheery smile.

An hour or so later, however, he strolled through the crowd and smiled from afar. As he was borne nearer she smiled at him in return over the posies, and ventured, even under the jealous eye of her dragon shop walker, to say:

"Oh, thank you so much!"

A smile in answer, as he passed on, and another perfect day wore away. At closing time that evening the same young man stood near the main entrance till long after the doors were closed, but the employes poured out of the basement entrance on the other side of the building, and he missed them, much as he would have liked to see one bright-eyed girl in shabby black, who sat in a 'bus holding a bunch of violets, her lips parted in a dreamy smile.

The next morning a bunch of fragrant, nodding lilacs was thrust through her window—the first of the blooms she had ever owned—and again she nodded ecstatic thanks to her unknown friend. That she might be doing wrong in accepting the favor did not occur to her, nor that the joy she felt night and day was not all in the flowers.

Then came a great handful of long-stemmed fleur-de-lis, in all the exquisite shades of purple, that brought to her, who had never seen them growing wild, a vision of pretty banks and rippling water, and again she nodded and smiled her thanks, under disapproving eyes.

The next morning her friend brought his offering in person, walking with determined step and with a decided expression on his face. This time he bore white tea roses—long-stemmed, heavy-headed, fragrance-burdened — and handed them across the desk. She blushed a rosy red, and before she could speak he said:

"I want to say a thing or two and it doesn't make any difference to me who objects," with a defiant glance at the glowering shop walker.

"But—oh! sir, you have been so kind to me, but I can't talk—it's against the rules. I'll lose my place."

"Miss Harrison!" came the warning.

"Oh, please go!" implored Margie in a half whisper. "I have twenty minutes for luncheon at one o'clock, and can see you at the back entrance for one moment, if you'll only go now."

On this promise the young man went away without a word, but, unfortunately, the shop walker had heard her make the appointment, and wishing revenge for past slights, and resenting her apparent friendliness with another man, reported the affair in such terms that when luncheon time came an envelope was handed to the girl containing the amount of wages due to her and a notification that her services were no longer required by the firm.

In her distress she forget all about her appointment with the man who had been the cause of her dismissal, so, as he stood waiting at the door, he was almost knocked over by a slender little girl with hat pulled down over suspiciously red eyes and an altogether dejected appearance.

"Something has happened!" he exclaimed.

"The shop walker reported me," was the answer, with an escape of tears, "and they have discharged me."

"No! Did they?" was his exclamation in lively tones, and with a most cheerful expression. "Come," he added, "let us walk down to a cafe I know, and let me talk to you a moment while you have your luncheon."

"But—I don't know you," demurred Margie.

"Nor do I you," he retorted, with a boyish laugh, "but I want to. Are you afraid to trust me?"

Margie looked in his face a moment, and then walked along beside him until the restaurant was reached. Her escort did not address her again until they were seated in a secluded corner and luncheon had been brought.

"I am Philip Douglass," he said, briskly; "twenty-eight years old, unmarried, with 300 acres of land—and one corner of my farm runs down into the river—a moist, shady little spot, where almost every flower will grow if it is planted, and we have planted a good many. I live with the dearest, gentlest mother in the world, and I am worth enough money to do as I please. You are—" he paused.

"Margery Harrison," put in the girl.

"Margery—Margery," he reiterated, softly. A sweet name. What else can you tell me that will make me know you better?"

"Twenty years old," began Margery, demurely, "stubborn, impatient and unconventional. I lodge with my brother Fred and his wife. I've worked at Yorks' for five years, and now," remembering her trouble, with a quick rush of tears, "they have sent me away without a moment's notice, and I must start out to hunt for my daily bread. And here I am, telling all this to you, when I must say good-by, and thank you, a thousand times, for the beautiful flowers—the first I have ever had given me."

Philip caught her hand as she started to rise.

"Sit down a moment, Miss Harrison—Margery—till I tell you what I meant by those flowers. They meant that when I saw you perched up there in that poisoned air, like a poor, forgotten and neglected flower, with your pale cheeks and eyes like velvet pansies, I felt such a pity for you that I wanted to transplant you out into the green fields and under the blue sky where the birds sing all day. And in a day or two more I began to feel a pity for myself, that I was not sure of transplanting you, and that you might slip away from me altogether. You'll come with me, won't you, Margery?"

Margie's hand was still in his, screened from the rest of the room by the long tablecloth, and as she searched his face wonderingly her cheeks crimsoned.

"But—but—you don't know me. I'm penniless, and haven't anyone in the world but Fred. It's all so sudden—you might change your mind."

"Never!" he exclaimed, emphatically. "And as for your being friendless and penniless, you will be so much the more mine. But you must know more about me. I'm a queer sort of fellow—what my neighbors call a 'book farmer,' but I have shown them that my book farming pays. But I want you to be satisfied with me—the man."

"I am satisfied," murmured the girl. "You carry your recommendation in your honest face and in your eyes, that I thought that first day were the kindest eyes I ever saw. I—I am willing to be transplanted."

Philip did not say a word at first, just sat and held Margie's hands tight, while he looked long and happily into her sweet, blushing face. Then, with a deep indrawing of his breath, he spoke with a tremble in his voice:

"My Margery, my Margery. It is a poor courtship, but it will be a long honeymoon to make up for it. I will love you and care for you so tenderly, that you will never regret this hastiness. I knew, the moment I saw your face, that I could make you happy, and the next time I knew I wanted you to make me happy."—May Garbutt.

Character.

"If you lose wealth you lose nothing; if you lose health you lose something; if you lose character you lose everything."

What a different world we should have if all men lived in accordance with the sentiment thus expressed!

If character was thought of first, then health and last of all wealth, there would needs be a revolution in the daily practices of untold numbers. If character became the object of life, how very different would be the careers of many who occupy high places—of many who exercise great power. How needless would become our jails and prisons, our police departments and reformatory schools! If men but better appreciated the value of character, how loth they would be to barter it away for a mess of pottage and thus make themselves poor indeed!

To see how thoughtlessly and ruthlessly men and women destroy their characters, one would imagine that character can be as speedily replaced as a soiled or lost garment. How few seem to realize that the character, which it has taken a lifetime of honest, virtuous living to establish, can be destroyed by one act—perhaps never to be fully recovered.

Let a man, for example, who has led a sober, temperate life during all the years of his manhood be seen reeling along our streets under the influence of liquor, and his character for sobriety is fatally injured. Let a woman who has led a good and pure life be seen in questionable company or visiting a questionable resort, and her good name is speedily shattered.

Nothing in life is harder to establish than character; nothing so easy to lose. By character, of course, I do not mean reputation. There is a wide difference between the two. Reputation is what

we are known to be; character is what we are. We may have an excellent reputation despite a bad character, but sooner or later a bad character comes to the surface and sweeps away a hitherto good reputation.

The man of good reputation but bad character imagines he can deceive the world indefinitely and continue to hold the respect of his neighbors despite his secret vices and failings. In reasoning thus he deceives no one more than himself. Men and women—myriads of them—who have been secret sinners and wrong-doers, have sincerely repented of their errors and have hereafter led pure and honest lives. Such as these may go to the grave deservedly honored and respected with reputation unsullied and character made even stronger by their earlier acts of wrong-doing and folly. But few, if any, men or women can, under the cloak of respectability, continuously lead immoral or dishonest lives and end their days retaining the esteem of friends and neighbors. Sooner or later their real characters will establish also their final reputations.

Beecher said that a "man rotten in heart, ragged in morals, deceitful in his ways, full of all manner of verminous immoralities—base, loathsome men—may have prosperity for a moment, but cannot, till God is foresworn, be happy or enduring."

If you were to ask the attributes of character, I should say that they are many, and included such qualities as truth, honesty, virtue, unselfishness, courage, grit, highmindedness, puremindedness, fortitude, generosity, sympathy, gentleness, tolerance and love. The perfect character should embrace all these qualities. But since perfection is not attainable, the most that can be hoped for is a striving after these attributes.—H. Weinstock.

The Fears of Childhood.

To the infant, night and day mean absolutely nothing, but through thoughtlessness, he is early educated to glory in the light, and to dislike the dark. He is rocked to sleep and is allowed to rest in a lighted room, or if he has been laid down in a darkened appartment, and wakens from his sleep, some one rushes to him and snatches him from his bed to exclaim, "Was he afraid all alone in the dark?" Of course, the baby does not at first understand the words employed; but the tone and touch of his nurse are suggestive, and indicate to him the propriety of anxiety on the occasion of his next similar experience, and he soon learns to be dependent upon the light and the family voices for a sense of comfort and security.

Later the child screams out at first sight of a cat or dog. Instead of calling the animal to her and caressing it, persuading the little one to do likewise, the mother exclaims, "Go away, bad doggie; mustn't hurt the baby!" This is not only unfair to the dog (which, probably, had no unfriendly intentions), but is injurious to the child, who thereafter screams at sight of the animal, feeling the need of his mother's protection. Children who show signs of fear in a storm are not aided to overcome their timidity, but are allowed to nestle in the mother's arms until the day is clear again, perhaps with covered head. Bugs, worms, even house flies are allowed to inspire anxiety in many overpetted darlings, while cold water is in terror of not a few, and shadows are regarded as mysterious and terrible apparitions, which may do the one who sees them some dreadful mischief.

Recollecting our own childish agonies of fear, we are inclined to be very tender of our little ones in their anticipations of evil. A true mother's work, however, is not to nourish the child's morbid or erroneous fancies. Rather having built up for him a strong mind and body by giving due consideration to his food, sleep, exercise and personal habits, she must, in a measure, enter into the spirit of the Spartan mother, and leave him to stand alone. If she begins this training in self-reliance early enough, it will prove no such great hardship, either to herself or the child, and she will discover that two-thirds of the fears of babyhood may be prevented, and the remaining fraction largely overcome.—Trained Motherhood.

August.

Waving lilies, bending blossoms,
Song of birds in every tree,
Fragrant breezes, azure heavens,
Insects chirping o'er the lea.
Time for dreaming and for pleasure,
Twine with flowers each weary brow
Kneeling at the shrine of leisure,
For 'tis August weather now.

—Lalia Mitchell.

Energy the Keynote of Success.

"If I were to select the prime requisites for success," says Mr. Beveridge, "I would say, first of all, energy. But equally necessary as energy are concentration and determination. Shielded from the wind and hitting in the same place every time, little drops of water will wear a hole into the living rock. But if the wind blows them here and there over a small surface, they have little effect. Thus with a man's energies—let them be concentrated and persistent. Hard study and hard work never injure; no standard is too lofty. But once having selected your pinnacle, no matter how difficult the way, never, never rest until you have reached it."

Why Eat Toast?

Invalids the world over are given their bread in the form of toast. The lay world is generally quite ignorant of why this is done. It is because, explains a medical authority, that toasting bread until it becomes brown largely converts the starch into dextrine; and hence, so far as the brown portion is concerned, one of the processes of digestion is gone through before the bread is taken into the stomach. It will be found that the thinner the slices of bread and the more thoroughly they are toasted, the easier digestion will be, and when all portions of the slice of bread are thoroughly toasted—not burned, but still changed to a deep brown color—it will be found to be still more easily digested than ordinary toast.

That a lie which is half a truth is ever the blackest of lies,
That a lie which is all a lie may be met and fought with outright,
But a lie which is part of a truth is a harder matter to fight.

—Tennyson.

Though he be single all his days,
To wedded life averse,
How often the photographer
A woman sees, and taketh her
For better or for worse!

DOMESTIC ECONOMY.

Breakfast.

That every breakfast shall begin with fruit, and every dinner with soup, is a safe rule to establish in every household. It may be broken now and then, perhaps, but never wholly departed from. The breakfast hour decides the day, whether it shall be one of physical comfort or discomfort, and a task well begun is half done. But a hot weather breakfast should differ materially from a winter breakfast. Oatmeal, which is heating, fattening, and to many impossible of digestion, should in nearly all cases be put aside during summer, and the lighter cereals used in its place. Eggs, beefsteak, lamb or mutton chops, broiled chicken, creamed chipped beef, codfish, smoked fish, fresh fish, creamed potatoes, tomatoes (raw and cooked), radishes, water and land cresses, spring onions, green peppers cut in narrow strips, the different fruits, with whole wheat bread, hard sweet butter and a cup of strong, clear coffee or tea, furnish a variety of wholesome breakfast dishes within the reach of all, and within the scope of every intelligent cook. Now and then there will come a call for a dish of bacon or fried salt pork. After the meat is removed from the pan drop in slices of green tomatoes, with tiny strips of green pepper drawn through them, or slices of summer squash with the green pepper seasoning, sour apples also sliced with skins on, but cores removed, thin strips of raw pumpkin, ripe tomatoes, and serve with the bacon.

Beauregard eggs is a highly esteemd dish, suitable for either breakfast, lunch or supper, and for any season of the year. Boil the eggs hard, one for each person to be served. With a large biscuit cutter cut out as many round slices of toasted bread as you have eggs. Make a white sauce by stirring together over the fire butter, flour and rich milk in the proper proportions, adding the whites of the eggs chopped fine, sufficient salt and white pepper to season. Arrange the toast on a large white dish, dip the sauce over each slice, and then squeeze the yolks through the potato ricer, fruit press or any small sieve or strainer. Dust slightly with salt and white pepper, set in the oven one minute and serve.

Curried egg is an East Indian dish which will revive the jaded appetite on these hot mornings if anything can. Boil six eggs twenty minutes, throw into cold water, remove shells and divide eggs lengthwise into quarters, being careful not to separate yolks from whites. Chop an onion and fry it in two tablespoonfuls of butter, add a spoonful of salt, a teaspoonful of curry powder, a tablespoonful of flour, a cup and a half of milk. A like quantity of broth (chicken or veal) may be substituted for the milk. When the sauce stirs perfectly smooth add two tablespoonfuls of sweet cream and the eggs. Simmer two minutes and serve.—Harriet E. Mayne in Epitomist.

Domestic Hints.

Rice Pudding. — Put three tablespoons each of well-washed rice, granulated sugar and seeded raisins, and one quart milk into a buttered baking pan, and let it stand on the back of range one hour, then bake slowly until the rice comes to the top and the milk is nearly absorbed. Serve hot with butter, or cold with cream.

Strawberry Float.—Add to two tablespoonfuls of cornstarch sufficient cold water to mix to a cream. Pour this into one pint of fresh boiling water and stir until thick and smooth. Add a pinch of salt, two-thirds of cupful of sugar, and stir for ten minutes over the fire. Add one tablespoonful of lemon juice, one-half of a cupful of strawberry juice and one pint of berries washed and cut into bits with a silver knife. Serve cold with sugar and cream.

Turkish Salad.—Put a pint of cold baked beans in the salad bowl. Slice two small onions fine, pour over them a little cold water, and press with the hand to extract the strong taste. Add the onions to the beans, together with two cold tomatoes sliced thin. Season with salt, pepper, oil and vinegar or lemon to taste, tossing with the salad fork until the dressing is all through the salad. Decorate with a border of lettuce leaves and a ring of olives, and set on the ice until ready to serve.

Cherry Cobbler. — Grease an earthen pudding dish, line the sides and bottom with a crust made of two cupfuls of flour, a pinch of salt, two teaspoonfuls of cold butter, mixed through the flour, and enough milk to make a soft dough. Fill this with a layer of pitted sour cherries, sprinkle with sugar and a little cinnamon, then lay strips of crust across it, afterward another layer of cherries, and so on until a quart of stoned cherries has been used. Cover the top with strips of the crust in the shape of diamonds. Bake about three-quarters of an hour.

Stuffed Shoulder of Mutton.—Have the blade bone removed from the shoulder, then stuff the cavity with the following mixture: One cupful of bread crumbs, one tablespoonful of finely chopped parsley, one teaspoonful of salt, one-third of a teaspoonful of pepper, half a dozen chopped fresh mushrooms (if obtainable) and sufficient melted butter—about one-quarter of a cupful—to thoroughly moisten. Sew or fasten up the opening. Put a bed of vegetables in the bottom of the pan and on this lay the meat. Pour in one cupful of water or stock, cover closely and place in a hot oven for half an hour. Uncover and finish the cooking, basting every ten minutes to the pound. Thicken, season and strain the gravy and send to the table in a boat.

Hints to Housekeepers.

A little salt sprinkled on a hot stove will remove any disagreeable odor.

To clean bronze, dust it carefully first, then wipe it with a soft cloth slightly moistened with sweet oil, and polish it with a very soft chamois skin.

No better covering can be found for the milk or cream jug, the opened can or the gravy boat, when set away with their contents, than a paper pulled over the mouths.

A cherry ice with the fruit in it is very refreshing and affords a change in the ordinary range of ices. It is a beautiful, rich, red color, a peculiar and fashionable shade, which just matches the roses in some of the ice-cream girls' hats.

Cheese balls, served hot with the salads, are made of a cup of grated cheese, half a cup of fine bread crumbs, five drops of Worcestershire sauce and one egg well beaten. Mix together, roll into balls and place in a wire frying basket, and just before time to serve plunge the basket into boiling fat and allow them to remain until a delicate brown.

One of the prettiest spring and summer salads is prepared by arranging on a bed of carefuliy washed watercress alternate thin slices of radishes, the red-skinned ones, and cucumbers and pouring of a French dressing. The combination of scarlet, white and two shades of green appeals to the eye, while the crispness and blending of spiciness and coolness satisfies the palate.

One of the most common obstacles presented to the house decorator is that of cheap woodwork. Sometimes it is extremely difficult to give a good finish to the common doors and frames that are found in many residences, or it happens that just the shade of paint needed is impossible to blend. To obviate either of these conditions, decorators are now covering woodwork with chintz or burlaps, and the effect is exceedingly good.

A Dairy Drink.

The Kirghiz of Siberia have a peculiar drink called ayran, made of boiled milk diluted with water, and then allowed to stand until it slightly ferments and turns sour. It forms an excellent and refreshing summer drink, especially when cool, and may well be imitated in the United States.—J. W. Bookwalter in Orange Judd Farmer.

GET Macbeth's "pearl top" and "pearl glass" lamp-chimneys; they are made of tough glass, tough against heat; they do not break in use; they do from accident.

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Address MACBETH, Pittsburgh, Pa.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 2, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Sept.	Dec.
Wednesday	71¼@71⅜	73¼@73⅝
Thursday	71 @70½	72⅞@72½
Friday	70¾@71⅛	72⅛@73
Saturday	71⅜@70⅞	73¼@73¾
Monday	70¾@69⅝	72⅛@71⅝
Tuesday	71⅞@71½	74⅝@74

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 9⅝d	5s 11 d
Thursday	5s 9¼d	5s 10⅝d
Friday	5s 9⅛d	5s 10⅜d
Saturday	5s 10⅛d	5s 11¼d
Monday	5s 8⅝d	5s 10 d
Tuesday	5s 8¼d	5s 9⅝d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 12⅞@1 12⅝	1 16½@1 16⅝
Friday	1 12½@1 12⅝	1 15⅞@1 16¼
Saturday	1 13⅜@1 12⅜	1 16¼@1 16⅜
Monday	1 12 @1 11⅝	1 15¾@1 15
Tuesday	1 11¾@1 10¾	——@——
Wednesday	1 11½@1 11½	1 14 @1 14½

Wheat.

Efforts of shippers and buyers generally have been to depress values for wheat, both in the speculative and sample markets. Quotable rates for spot wheat were not reduced, however, over 25c per ton for shipping grades, while values for milling wheat remained practically unchanged. Chicago futures are at this writing slightly lower than they were a week ago, the decline being about 1¼c per bushel. Liverpool options are also lower, but the decline is not very pronounced, September delivery being not quite 2½c per cental under the figures of a week ago, and about the same difference in price is shown for December option.

The influences, either real or imaginary, which were thrown out with the most prominence the past week upon the wheat market, were almost without exception of a bearish nature. For reasons given in preceding review, this was to have been expected. That there will be any material change for some weeks to come in existing conditions is not probable. Exporters from this coast are being handicapped to considerable extent by a light supply of ships, and in consequence a temporarily stiff freight market, while in foreign grain centers the conditions are by no means what could be termed favorable for sellers. That the market will remain in its present unsatisfactory condition throughout the season, however, is altogether improbable, unless buyers fail to secure at any time any considerable portion of the crop. It is this that is standing at present more than anything else in the way of development of strength. The crop in this State is turning out better than was generally estimated in the early Spring, enabling both shippers and millers to be more independent than if the reverse had proved to be the case. In Oregon and Washington the yield is lighter than in 1898, but with a large quantity still on hand in above sections from previous season, the available supply will likely not show much difference from that of last year. Clearances from this port in July were five cargoes, aggregating with minor shipments by steamer, 323,658 centals, valued at $356,517. For corresponding month in 1898 only two wheat cargoes were dispatched from this center, carrying 141,740 centals, valued at $208,394. But fair comparisons are hardly afforded by last year's wheat shipments, as they were the highest on record for many years. The shipments last month were lighter than for July of either of the two preceding years, when they averaged about 30,000 tons, and these figures were not extraordinary for a single month's movement in a good season.

California Milling	$1 05	@1 10
Cal. No. 1 shipping, alongside	1 03¼	@1 05
Oregon Valley	1 05	@1 07½
Walla Walla Blue Stem	1 07½	@1 10
Walla Walla Club	1 00	@1 07½
Off qualities wheat	1 00	@1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.12⅞@1.10¾.

May, 1900, delivery, $1.16¾@1.14.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.11⅛@1.11½; May, 1900, 1.14@1.14½.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s8½d@6s9¼d	6s0d@6s0½d
Freight rates	26¼@27½s	32@—s
Local market	$1.25@1.30	$1.10¾@1.06¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

LOCAL STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on August 1st and July 1st:

Tons—	August 1st.	July 1st.
Wheat	*78,185	66,918
Barley	†25,865	6,252
Oats	1 291	400
Corn	269	535

* Including 53,339 tons at Port Costa, and 22,8'8 tons at Stockton.

†Including 17,657 tons at Port Costa, 6578 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show an increase of 6684 tons for month of July. A year ago there were 40,043 tons wheat in Call Board warehouses.

Flour.

Market is well stocked, and for the ordinary run of offerings is devoid of firmness, with prospects of the situation continuing favorable for buyers for some time to come. In quotable values there are no changes to report.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

In the matter of quotable values, the market is in a worse position than at date of preceding review. There are no evidences of any very great activity here, or of much doing in the interior, buyers and sellers in most instances being too far apart in their views to be able to come to business. Considerable barley is moving outward, and also is going aboard ship for future clearance, representing purchases made a few weeks ago. One ship sailed the current week for Great Britain with a full cargo of barley—4000 tons, valued at $88,300. For choice Chevalier $1.20 was bid and refused. Not for many years have bids been so low and absence of competition among buyers so prominent on this variety of barley as the current season. Of the ordinary variety of barley, the proportion of offerings desirable for malting has not been heavy thus far of the new crop. Owing to the lack of care in harvesting, much of the barley shows too many broken kernels to be useful for brewers. Shippers talked 90@95c for export grades of ordinary barley, but were not able to make any noteworthy purchases at these figures. Most of this season's purchasing has been consummated in the interior and at relatively higher figures than were obtainable in this center. In the speculative market trading was not very brisk, and fluctuations were at a wider range than previous week.

Feed, No. 1 to choice	85	@	90
Feed, fair to good	82½	@	85
Brewing, No. 1 to choice, new	90	@	95
Chevalier, No. 1 to choice	$1 17½	@1	22½
Chevalier, No. 2	—	@	—

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 85⅛@82c.

December, 1899, delivery, 87¼@82¾c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 83⅜@82¾c; seller 1899, new, 82¼@82c.

Oats.

For choice to select feed oats the market has presented a firm tone, there being no very heavy offerings of this description and a good demand, mostly on account of the United States Government, 1200 tons having been called for to feed horses in the Government service in the Philippines. There are some fears of being unable to secure all these oats on the present local market, and of having to send East for a portion of the order. This would prove expensive to the contractors, however, and doubtless will not be done if it can be possibly avoided. With common to fair grades the market is well stocked and easy in tone. Red oats are being offered this season in much larger quantity than ordinarily, and the quality is averaging very well for this variety.

White Oats, fancy feed	$1 30	@1 35
White, good to choice	1 17½	@1 25
White, poor to fair	1 05	@1 10
Gray, common to choice	1 10	@1 25
Milling	1 30	@1 40
Surprise, good to choice	1 35	@1 45
Black Russian	1 00	@1 10
Red	1 00	@1 12½

Corn.

Aside from Eastern product there is little offering, nor will there be for at least some months to come. In fact there is not much probability of supplies of domestic being large any time this season. The imported on market represents in the main purchases made prior arrival and values in consequence show little fluctuation. Small Yellow is in such insignificant supply as to be quotable only in a retail way.

Large White, good to choice	$1 12½	@1 17½
Large Yellow	1 10	@1 12½
Small Yellow	1 40	@1 45
Eastern Mixed	1 07½	@1 10

Rye.

Arrivals have been on the increase, and market is 50c@$1 per ton lower. Much of the rye coming forward represents previous purchases. Some is going aboard ship for Europe.

Good to choice, new	95	@1 00

Buckwheat.

Market is practically bare of Buckwheat and there is nothing at the moment upon which to base quotations. New crop will be due in a few weeks.

Good to choice	$2 50	@	—
Silverskin	—	@	—

Beans.

Values during the week under review have not changed materially, neither has there been any great activity observable. The more quiet condition prevailing than for a week or two preceding was largely attributable to the firm views of holders, rather than to lack of interest on the part of buyers. There are no heavy supplies of any sort and stocks of some varieties, such as Butters, Reds and Black-eyes, are exceedingly light. There is no probability of any material increase for several months to come in the quantity in store here, or not until new crop comes upon the market. From all indications at this date the coming crop will not be of large volume, and will be principally of colored varieties. The yield of Limas will be very moderate, owing to light acreage sown.

Pea, fair to good, 100 lbs	$2 15	@2 25
Small White, good to choice	2 15	@2 20
Lady Washington	1 70	@1 80
Butter, small	3 75	@4 00
Butter, large	——	@——
Pinks	2 30	@2 37½
Bayos, good to choice	1 85	@1 95
Reds	3 75	@4 00
Red Kidneys	2 50	@2 75
Limas, good to choice	4 00	@4 15
Black-eye Beans	4 15	@4 25
Horse Beans	——	@——
Garbanzos, large	2 75	@3 00
Garbanzos, small	1 60	@1 75

Mail advices of recent date from New York City give the following review of the bean market, prices quoted being per 60-lb. bushel:

The slight reaction that set in a week ago has developed into a decline of fully 2½c on most white varieties, and there has been a slow, dragging trade all the week. Jobbers have not wanted much stock, having bought ahead on the recent rise, and export orders have been few and small. For a day or two $1.52½ was held on choice Marrow, then the price fell to $1.50, and toward the close a few lots have sold down to $1.47½. Medium have had so little call that notwithstanding the moderate offerings the price of best marks had settled to $1.40, weak. Sellers have had to yield a little on Pea beans also, and $1.37½ is now seldom exceeded. Some Red Kidney were taken for export during the week and shippers had no difficulty in filling the orders at $1.70 f. o. b. The buying has not been large enough to give much support to the market. Only a few White Kidney here and exporters have paid $2 to fill some small orders Yellow Eye steady. Turtle Soup dull. Lima have made another 5c advance and there is a generally strong holding on the basis of $2.80. Some green peas in barrels are selling for export at $1.15; scarcely any hag stock here. Scotch have had quiet jobbing sales, mainly at $1.12½ for hags; one or two lots can be bought at $1.10. Feeling perhaps a shade easier.

Dried Peas.

There are no Green Peas now being presented for sale, and very few of the Niles variety. Quotations for the time being are largely nominal.

Green Peas, California	$2 30	@2 40
Niles Peas	2 00	@2 10

Wool.

No material changes have been developed, either in tone or rates, since last review. Not much has been done in the local market, offerings for sale being too light to permit of any great movement, and offerings were mostly held at figures entirely too high to permit of buyers and sellers coming together. The wool market East is reported quiet, some say at easier figures than have been lately current, while others claim that values on the Atlantic side are higher than at any previous date this season, and are now fully on a par with those prevailing in this center, which was not the case a month ago. Fall clip is beginning to come forward, and will be quotable in all probability in a few weeks. Some small sales of early clip of Fall lambs have been already made at relatively as good figures and have been lately current on Spring fleeces.

SPRING.

Humboldt and Mendocino	15	@18
Northern Sacramento Valley, free	12	@14
Northern Sacramento Valley, defective	9	@11
San Joaquin foothill, free	10	@12½
San Joaquin foothill, defective	8	@10
San Joaquin plains and southern, 7 mos.	—@—	
San Joaquin plains and southern, 12 mos.	7	@10
Nevada, as to condition	10	@14
Oregon Eastern, choice	12	@14
Oregon Eastern, fair to good	10	@12
Oregon Valley	15	@18

Hops.

The same inactivity as previously noted is still being experienced in the local hop market, with present supplies light and composed principally of holdings by jobbers. In new crop to arrive there is nothing doing, and while buyers may be more indifferent than they were in the early summer, growers show certainly no more desire to contract now at recent bids, 12@13c, than they did weeks ago. It is altogether likely that there will be little done until new hops appear upon the market. Some early deliveries of new are looked for the current month.

Good to choice, 1898 crop	15	@17½

The following review of the hop market is published under recent date by a New York authority:

Receipts for the week have been the lightest of the season, and with over 1200 bales exported local holdings have been somewhat reduced. The shipments to Europe were mostly on old purchases and include further lots of old Pacifics. New business has been light both on foreign and home account, but some features have been developed of late that seem to give holders a little more confidence, and the tone is steady to firm. There are not many lots remaining that are fine enough to reach our outside figures, but the range given for the different qualities fairly covers the sales that are making. In the interior of this State buyers have been picking up a number of lots of '98s at from 9c to 12½c and some old hops at 4½@5c. Stocks back in growers' hands are the lightest that they have been for several years. The growing vines have been making fair progress of late, but the yards are irregular and the quite general belief is that the yield will be less than last year. On the Pacific coast the prospects are not as favorable as a few weeks ago, and growers are generally refusing to contract. In Oregon and Washington there are complaints of lice, but they are not serious. Reports from England are universally favorable, and good advices come from the continent also.

Hay and Straw.

The hay market is without improvement, the same demoralized condition last noted being still current, with no encouraging prospects at the moment for any change for the better in the near future. Heavy supplies in the interior and inadequate storage facilities at points of production are causing many growers to rush their hay to market before the opening of the rainy season. There is little or no doubt the market will show some improvement later on, but whether it will be sufficient to amply pay for cost of carrying in the meantime remains to be seen.

Wheat	6 50	@ 9 00
Wheat and Oat	6 50	@ 8 50
Oat	6 50	@ 7 50
Barley	6 00	@ 6 50
Alfalfa	5 00	@ 7 50
Timothy	——	@ ——
Compressed	7 50	@10 00
Straw, ₱ bale	25	@ 40

Millstuffs.

Most kinds of mill feed were in very fair supply, as compared with the demand, and market presented an easier tone, but quotable rates were not materially changed, except for Rolled Barley, which is $1 per ton lower.

Bran, ₱ ton	$16 00	@16 50
Middlings	18 00	@20 00
Shorts, Oregon	16 00	@17 00
Barley, Rolled	19 50	@20 00
Cornmeal	24 00	@ ——
Cracked Corn	25 00	@ ——

Seeds.

There have been no new developments in this department since last review. There is scarcely anything doing, and little or nothing in the way of stocks upon which to operate. Under existing conditions it can be readily seen that values must be poorly defined.

	Per ctl.	
Mustard, Trieste	$3 50	@——
Mustard, Yellow	2 50	@3 00
Flax	——	@——
	Per lb.	
Canary	3	@3¼
Rape	3	@4
Hemp	4¼	@4½
Alfalfa, Utah	—	@ —

Bags and Bagging.

Prices for Grain Bags have ruled fully as unfavorable to buyers as preceding week. The non-arrival of a Grain Bag ship now long overdue at Portland keeps about 4,000,000 bags off the market. Should this cargo never turn up, there would still be enough left; but of course such a large quantity on or off the market makes a great difference in the tone. Wool sacks are offering at unchanged rates.

Calcutta Grain Bags, buyer July	—@—	
San Francisco Grain bags, 22x36, spot	6	@ 6½
State Prison bags, per 100	—@—	
Wool sacks, 4 lb	28	@29
Wool sacks, 3¼ lb	26	@27
Gunnies	10½	@—
Bean bags	4½	@ 4¾
Fruit sacks, cotton	5¼	@ 6

Hides, Pelts and Tallow.

The market is firm throughout, with a good demand at prevailing rates. As immediate supplies are light, and as there is not much coming forward from interior, prospects are that the market will remain favorable to sellers for at least a few weeks to come.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	10@10½	9@ 9½
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	30	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

A shipment of 124 cases Extracted went forward by Panama steamer this week for New York. Market is decidedly firm for both Comb and Extracted, especially for best qualities. Stocks are small, both here and in the interior.

Extracted, White Liquid	7½	@ 7¾
Extracted, Light Amber	6½	@ 7
White Comb, 1-lb frames	11½	@12½
Amber Comb	8	@10

Beeswax.

There are no changes to record in the beeswax market. Quotable changes remain as last noted, but more than is offering could be placed at current figures.

Good to choice, light, ₱ lb	26½	@27
Dark	25	@26

Live Stock and Meats.

Market for Beef continues in good shape for sellers, with no excess of supplies, either for the present or in prospect for the near future. Veal is still commanding stiff prices. Mutton has been tending upward, and is more likely to rule firmer than cheaper as the season advances. Hog market was in fully as good shape for the seller as during preceding week.

Beef, 1st quality, dressed, net ₱ lb	8	@—
Beef, 2d quality	7	@ 8
Beef, 3d quality	6	@ 7
Mutton—ewes, 6½@7c; wethers	7	@ 7½
Hogs, hard grain fed, medium	5¾	@ 6
Hogs, small, fat	5¾	@ 6
Hogs, large hard	5¾	@ 5½
Hogs, acorn-fed	—	@—
Hogs, feeders	5	@ 5½
Hogs, country dressed	5¾	@ 6
Veal, small, ₱ lb	10	@11
Veal, large, ₱ lb	8	@ 9
Lamb, spring, ₱ lb	8	@ 8½

Poultry.

Heavy arrivals of Eastern proved a decided handicap to the market for domestic product. Recent offerings of imported included considerable young stock. Eastern Broilers are made to pass for Fryers, owing to the imported averaging much larger than the home article. Domestic poultry did not arrive in heavy quantity, but there was too much for the limited requirements of the trade.

Turkeys, young, ₱ lb	15	@ 17
Turkeys, live hens, ₱ lb	11	@ 12
Turkeys, live gobblers	11	@ 12
Hens, Cal., ₱ doz	4 00	@5 00
Roosters, old	4 00	@4 50
Roosters, young, (full-grown)	4 50	@5 50
Fryers	3 50	@4 00
Broilers, large	3 00	@3 50
Broilers, small	2 50	@3 00

Ducks, ₱ doz	3 00	@4 50
Geese, ₱ pair	1 12½	@1 25
Goslings, ₱ pair	1 25	@1 50
Pigeons, Old, ₱ doz	1 50	@1 75
Pigeons, Young	1 50	@1 75

Butter.

The market showed little change in quotable rates or general tone. Values for strictly select creamery were well maintained, with no heavy stocks of this description. There was an excess in supply, however, of creamery product which was not up to the top notch in quality. Dairy product made a limited display, and values for same were well maintained at the quotable range, especially for roll butter of high grade.

Creamery extras, ₱ lb	20	@21
Creamery firsts	19	@—
Creamery seconds	18	@—
Dairy select	18	@19
Dairy seconds	16	@17
Dairy, soft and weedy	—	@—
Mixed store	13	@14
Creamery in tubs	18	@20
Pickled Roll	18	@20
Firkin, Cal., choice to select	18	@20
Firkin, common to fair	15	@16

Cheese.

Firmness is fuliy as pronounced as previously noted, with no prospect of values for domestic receding to any noteworthy extent for some months to come. Eastern cheese is higher and is likely to further advance at an early date.

California fancy flat, new	10	@—
California, good to choice	9	@ 9½
California, fair to good	8	@ 8½
California Cheddar		—@—
California, "Young Americas"	9	@11

Eggs.

Market for domestic has heen a little slow, but hest qualities were in only moderate receipt and brought ahout as good figures as preceding week. Eastern were in free receipt and were urged to saie at comparatively low figures, to the detriment of the market for domestic.

California, select, large white and fresh	22	@—
California, select, irregular color & size	19	@21
California, good to choice store	16	@18
Eastern, as to seotion and grading	14	@18
Eastern, cold storage	—	@—

Vegetables.

Onions were in reduced receipt and higher, demand showing improvement. For deliveries early the coming week an advance of 15@25c per centai on quotations beiow noted was asked. With this exception, there were no noteworthy changes for the hetter in the market for vegetables quoted herewith. Most kinds in season were in excessive supply, causing prices to rule at a low range.

Asparagus, fancy, ₱ box	—@	—
Asparagus, No. 1, ₱ box	1 50@	2 00
Asparagus, common to fair, ₱ box	50@	75
Beans, Wax, ₱ lb	2@	3
Beans, Vacaville, String, ₱ lb	1½@	2½
Beans, Lima, ₱ lb	4@	5
Cabbage, choice garden, ₱ 100	50@	60
Cauliflower, ₱ doz	50@	—
Corn, Alameda, ₱ crate	1 00@	1 25
Corn, Green, ₱ sack	25@	75
Corn, Berkeley, ₱ crate	35@	75
Cucumbers, Alameda, ₱ large box	15@	25
Cucumbers, ₱ small box	—@	—
Egg Plant, ₱ box	50@	75
Garlic, new, ₱ lb	2@	3
Mushrooms, Buttons, ₱ lb	—@	—
Mushrooms, wild, ₱ box	—@	—
Okra, Green, ₱ box	50@	75
Onions, Yellow, good to choice, cental	1 00@	1 20
Onions, New Red, ₱ cental	—@	—
Peas, Sweet, Garden, ₱ lb	3@	4
Peas, common, ₱ lb	1½@	2½
Peppers, Green Chile, ₱ box	25@	50
Peppers, Bell, ₱ large box	50@	75
Rhubarb, ₱ box	—@	—
Squash, Bay, ₱ large box	15@	30
Squash, Marrowfat, ₱ ton	10 00@	15 00
Squash, Summer, ₱ small box	15@	25
Tomatoes, Bay, ₱ large box	35@	60
Tomatoes, ₱ small box	15@	25

Potatoes.

Market shows improved condition and indications are favorabie for a firm market for some time to come, especially for good to choice qualities, the latter heing in particularly light stock, and there are at present no points of suppiy from which liherai arrivals may be anticipated. The Salinas district, which had heen furnishing liherai quantities, has gone largely into the raising of sugar heets. Sweet potatoes have put in an appearance, hut only in a small way, with 3⅓@4c per lb. asked.

Burbanks, River, ₱ cental	—	@ —
Burbanks, Bay counties, ₱ ctl	—	@ —
Burbanks, Humboldt	—	@ —
Early Rose	75	@1 00
Garnet Chile	1 00	@1 15
Burbanks, ₱ cental	1 00	@1 20
Sweet River, ₱ cental	3 00	@ —
Sweet Merced	—	@ —

The Fruit Market.

Fresh Fruits.

Changes from previous week were not numerous or marked in the market for fresh fruits. The firmness which exlsted was confined principaily to desirahie quaiities of Apricots and Bartlett Pears, with receipts light of hoth descriptions, and especlaiiy so of Bartietts. Very few choice Pears have put in an appearance on this market or are likely to he seen during the halance of the season. Next on the list in point of favor, suppiy and demand alone heing considered, were Plums of the larger sizes, such as Burhank, Peach, Washington and Egg, market not heing overstocked with these, and was moderately firm at the quotations. Peaches were in heavy receipt and ruied ahout as unfavorahle to the seliing interest as during preceding week. Common Sacramento river stock sold as low as 15c per hasket, whiie for choice Freestone in boxes, wrapped, 50c per 20-lh. hox was ahout the utmost figure warranted as a quotation, although occasionai saies of seiect were made in a smaii way at siightiy higher figures. Choice Appies were not pientifui and sold fairly weii, but common qualities were in entirely too heavy supply for the requirements. Some were fit only for cider or as a hasis for canners' jeiiies, but there is iittie or no call at present for either of these purposes.

Grapes continued in light receipt, and it was the exception where the quality was fine enough to cause the fruit to be particulariy sought after. Most kinds of berries in season were in reduced supply, hut with inquiry light, it was the exception where vaiues showed any quotahle improvement.

Apricots, good to choice Royal, ₱ ton	35 00@	50 00
Apricots, Royal, ₱ box	30@	65
Apricots, Pringle, ₱ box	—@	—
Apples, fancy, ₱ 50-lb. box	—@	—
Apples, good to choice, ₱ 50-lb. box	75@	90
Apples, Green, common to fair, ₱ 50-lb. box	25@	50
Blackberries, ₱ chest	3 00@	4 50
Cantaloupes, ₱ crate	50@	1 00
Cantaloupes, Nutmeg, ₱ crate	40@	1 00
Cherries, Black, ₱ box	—@	—
Cherries, Red, ₱ box	—@	—
Cherries, Royal Anne, ₱ box	—@	—
Cherries, White, ₱ box	—@	—
Crabapples, ₱ small box	35@	60
Currants, ₱ chest	—@	—
Figs, Black, 2-tier box	60@	1 25
Figs, Black, ₱ drawer	—@	—
Gooseberries, ₱ lb	—@	—
Gooseberries, ₱ 10-lb box	—@	—
Grapes, Black, ₱ crate	75@	1 00
Grapes, Fontainebleau, ₱ crate	60@	75
Grapes, Muscat, ₱ crate	65@	1 15
Logan Berries, ₱ chest	9 00@	10 00
Nectarines, Red, ₱ box	50@	75
Nectarines, White, ₱ box	25@	60
Peaches, fancy wrapped, ₱ box	40@	50
Peaches, ₱ box	20@	40
Pears, Bartlett, No. 1 to choice, ₱ ton	40 00@	50 00
Pears, Bartlett, ₱ 40-lb. box, wrapped	65@	1 25
Pears, common, ₱ basket	25@	40
Pears, ordinary, ₱ box	25@	60
Plums, large, ₱ ton	20 00@	25 00
Plums, large, ₱ crate	50@	65
Plums, ₱ box	25@	50
Plums, Cherry, ₱ drawer	—@	—
Raspberries, ₱ crate	—@	—
Raspberries, ₱ chest	3 00@	5 00
Strawberries, Longworth, ₱ chest	5 00@	6 00
Strawberries, Large, ₱ chest	2 00@	3 00
Watermelons, ₱ 100	5 00@	15 00
Whortleberries, ₱ lb	5@	7

Dried Fruits.

Market continues to he lightly stocked, fruit of this season's curing arriving very sparingly. There is no prospect of there being large supplies of apricots at any time during the season, neither is there likelihood of weakness being experienced in the market for this fruit, unless developed in the next few days. Most of the dried apricots this season are in the district south of Tehachapi, and the curing there is now ahout finished. If there is to he any undue selling pressure and weakness in consequence, it may he looked for within this coming week, as those who arrange to store will certainly not he apt to break values later on. The prospects for lower prices ruling are poor at this date. In Los Angeles, where most of this season's apricots are being marketed, 9½@10c is being realized on carload lots. In middle and northern California it is douhtful if there are 50 cars of cured apricots, all told. In the Santa Clara valley there are 20 to 25 cars. In the Suisun, Vacaville and Winters district, a prominent apricot section, only 7 cars are reported in the hands of growers. The entire output of the State is more likely to he under than over 300 cars. Peaches are not arriving here in heavy quantity, but are heginning to move Eastward freely from interior points at 6@6½c f. o. h. cars The local market is quotable at 7@7½c for standard stock. Apples are arriving in a small way, with good evaporated in 50-lb boxes commanding 8c, and sundried in sacks selling at 5c. No Nectarines, Pears or Plums yet received. Pears will undoubtedly be scarce, and choice will command stiff figures in a small way. Figs are quotahle at a wide range, from 2½c for sun-dried black in sacks, to 12½@15c for fancy white in small fancy packages. Prune market shows steadiness of values, with prospects for a good demand for coming crop, owing to shortage in Europe and a decrease in the yield in Oregon and Washington. The crop in this State will be very fair as to quantity, and of good average quality. In the San Joaquin there will he from 400 to 500 cars, when the crop last year was almost a total failure. A few new Prunes will he in market this month, the season heing unusually early.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	9½@10½
Apricots, Royal, fancy	11 @12
Apricots, Moorpark	12 @13
Apples, in 50-lb. boxes, rings, pressed, fancy	—@—
Apples, 50-lb. boxes, rings, pressed, fair to good	7¼@ 8
Figs, White, fancy pressed	—@—
Peaches, unpeeled, good to choice	7 @ 7½
Peaches, unpeeled, fancy	—@—
Peaches, peeled, in boxes	—@—
Pears, unpeeled Bartletts, halved, fancy	—@—
Pears, halved, unpeeled Bartletts	—@—
Pears, quartered, unpeeled Bartletts	—@—
Plums, pitted	—@—
Prunes, in sacks, 40—50's	7 @—
50—60's	4¾@ 5
60—70's	3¾@ 4
70—80's	3 @ 3¼
80—90's	2¾@ 3
90—100's	2½@ 2¾
110—130's	2 @ 2¼

Prunes in boxes, ¼c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	3¼@—	
4 sizes San Joaquin and Northern	3 @—	
Prunes, Silver	4 @ 7	

COMMON SUN-DRIED.

Apples, sliced	4@ 5
Apples, quartered	4@ 5
Figs, Black	2@ 3
Figs, White	—@—
Peaches, unpeeled	—@—

Advices of recent date hy mail from New York City give the following review of the dried fruit market in that section:

There is only a small jobbing demand for evaporated apples and market is quiet and somewhat nominal, though attractive stock is held about steady. Exporters are showing no interest in spot goods, but a little business is reported in futures. For October and November delivery 7¼c is asked for prime evaporated, with 7¼c bid; chops held at 2½c, with 2½@2¼c bid, and a few sales, and waste is offered at 1¾c, with 1⅝c bid. Crop reports are still conflicting, but generally unfavorable. The Government report for July shows a general decline in the condition of the growing crop during June, and the average is given as much lower than for several years. In New York, Michigan and Missouri it is 18 points below the fifteen-year average, in Kansas 13, Kentucky 9, Tennessee 7, North Carolina 21, Virginia 10, Iowa 3, Illinois 2, and Maine 48 points; on the other hand, it is 11 points above the fifteen-year average in Ohio, 5 points above in Pennsylvania ond 5 points in Indiana No new small fruits arriving as yet and old stock receives little attention, except huckleberries, which are inquired for and higher. Raspberries firm, but blackberries quiet and easy and cherries weak. California fruit in small supply and held steady.

Apricots, Cal. Moorpark, 1898, per lb	14	@16
Apricots, Cal. Royal, 1898, per lb	13	@14½
Peaches, Cal., 1898, unpeeled, per lb	9	@12
Prunes, Cal., 1898, per lb	3	@ 8½

Raisins.

Business doing is within range of unchanged quotations, hut is not extensive. Stocks of two-crown Pacific standard are exhausted. More cheap Raisins could he readiiy placed, hut there is little inquiry at the moment for high grades.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—@—
Dehesa Clusters, per box	—@—
Fancy Clusters, per box	—@—
London layers, 3-crown, 20-lb box	—@1 20
London layers, 2-crown, 20-lb box	—@1 10
Valencia layers, ₱ 20-lb box	80@1 00
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	5¼@5¾
Loose Muscatel, 3-crown	4¼@4¾
Loose Muscatel, 2-crown	3¼@3¾
Loose Muscatel, ungraded	—@4
Sultanas, unbleached	—@4½
Seedless Muscatel	—@3¼
Thompson's Seedless, unbleached	—@6
(Above prices for loose raisins are for 50-lb boxes.)	
Dried Grapes	2½@2¾

Citrus Fruits.

Orange market is not wholly bare, a few Valencias heing still on hand, but the demand is of still more insignificant volume than the supply. Lemons are offering at same range of prices current for some weeks past, with no scarcity of supplies, and for other than select to fancy the market is devoid of firmness. Limes were in fair supply and were offered at easy rates.

Oranges—Navels, ₱ box	—@—	
Mediterranean Sweets	—@—	
Late Valencias	2 00@	4 00
Lemons—Cal., select, ₱ box	2 50@	3 00
Cal., good to choice	1 50@	2 00
Cal., common to good	75@	1 50
Limes—Mexican, ₱ box	4 00@	4 50
Cal., small box	75@	1 00

Nuts.

No new developments since last report. A good crop of Aimonds is reported and a fair average yield of Walnuts. Choice paper-shell Aimonds are expected to command 9½@10c. Values for Peanuts are being well sustained, with offerings light.

California Almonds, paper shell, ₱ lb	—	@—
California Almonds, soft shell	—	@—
California Almonds, hard shell	7	@ 9
California Almonds, shelled	—	@—
Walnuts White, paper shell	—	@—
Walnuts White, soft shell	—	@—
Walnuts White, Cal., standard	9	@10
Chestnuts, Cal. Italian	6	@ 7
Peanuts, Cal., fair to prime	5½	@ 6
Peanuts, Eastern hand-picked	6	@ 7
Pine Nuts	6	@ 8

Wine.

There is little doing at present in offerings from first hands, and not much of this sort on the market. Values are without quotable change, 16@20c per gallon heing the current wholesale range on Claret, although lots which are undesirahie, either as to quality or size, cannot he realized on to hring lowest quotation. The movement outward continues of fair average volume. The last Panama steamer took 54,072 gallons and 20 cases, the greater portion being destined for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.	Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	117,838	449,589	275,224
Wheat, ctls	107,649	389,878	188,144
Barley, ctls	207,608	432,105	78,370
Oats, ctls	18,416	58,066	32,225
Corn, ctls	1,475	7 015	5,285
Rye, ctls	568	5,283	1,885
Beans, sks	4,283	20,762	5,177
Potatoes, sks	16,553	64,276	87,165
Onions, sks	3,194	12,369	16,232
Hay, tons	4,628	13,521	13,041
Wool, bales	1,434	9,317	6,096
Hops, bales	173	546	358

EXPORTS BY SEA.

FOR THE WEEK.	Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	117,888	252,808	151,548
Wheat, ctls	68,493	322,863	141,713
Barley, ctls	47,313	180,773	17,295
Oats, ctls	2,168	3,074	2,603
Corn, ctls	455	834	2,214
Beans, sks	143	1,517	3,235
Hay, bales	3,062	5,669	3,311
Wool, lbs	....	....	205,593
Hops, lbs	1,607	7,749	67,863
Honey, cases	52	77	215
Potatoes, pkgs	521	3,959	3,861

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

California Dried Fruit at New York.

NEW YORK, Aug. 2.—California dried fruits: Market quiet but steady. Evaporated apples, common, 6½@7¼c; prime wire tray, 8¼@8½c; choice, 8¾@9c; fancy, 9¼@9½c.

Prunes, 3½@8¾c.

Apricots, Royal, 12@14c; Moorpark, 15@16c.

Peaches, unpeeled, 10@11½c; peeled, —@—c.

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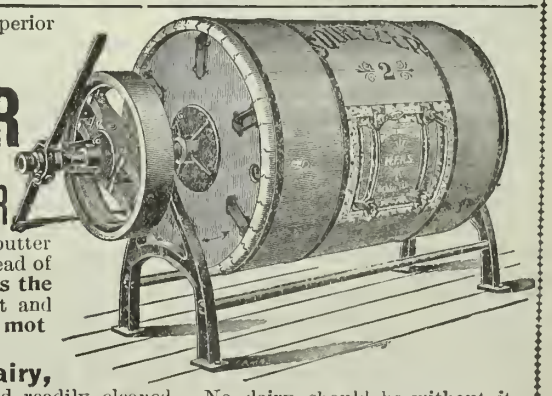
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How Our "Pictures" Are Made.

Engraving is divided into two processes. By the one outlines, shadows and half tints are represented by incisions meant to contain the printing ink, while the parts meant to come out white on paper are left untouched. Metal work and copper plate engraving belong to this class. In the other method the lines are drawn on or chemically transferred to a flat surface, and afterward the wood or metal is either cut away by hand or etched away by acid, leaving the design standing out in relief. All the illustrations in this paper, wood cutting, zinc etching and half-tone work are of this nature. In the first division the only style of work referred to which is applicable to newspaper illustration is the chalk plate work. In this process a thin steel plate is coated with a preparation of chalk. The artist draws the picture on the chalk surface by using steel needles and fine pointed steel tools, with which he cuts into the chalk, so that when he has finished his work there is a complete drawing on the chalk plate in which all the lines are made by the incisions in the chalk. The drawing finished, the plate is ready for stereotyping.

It is the second division with which modern illustrating is principally associated.

Wood engraving is about as old as the art of printing itself, the principle being that the surface of the block produces black, the white parts of the drawing being cut away, so that when the block is inked the lowered parts cannot come in contact and are thus left white. To produce the effect of all the intermediate shades between solid black and pure white a series of lines and dots, varying in distance apart and in breadth must be employed. A very light portion in the finished print would be produced by leaving fine lines or dots, and cutting out wide spaces between them, and from this to the solid black in the finished print the lines would be coarser and the spaces cut away narrower, until in the solid blacks the wood is not cut away at all. Most of the cutting on wood is done by hand; however a machine is now used for the mechanical ruling and shading. During the first years of this journal's existence it was necessary to draw all the subjects on the wood before cutting the engraving, and all the wood used was soft; now, however, hard boxwood is used for most work, and after coating the surface of the block with a solution, sensitive when exposed to sunlight, a print is made on the wood by using a negative made from the object to be engraved or from an artist's original drawing. When the block is finished the electrotyper takes a mold of the block in wax. This wax mold is covered with a thin coating of black lead, this being a good conductor of electricity. The mold is then suspended by a brass rod in a large bath filled with a solution of sulphate of copper and sulphuric acid. A current of electricity from a dynamo is conducted to the wax mold in the bath and also a sheet of copper placed near the mold. The electricity decomposes the copper and deposits it in small particles on the mold on which a thin coating of copper is formed, producing an exact facsimile of the original engraved block. This copper reproduction is filled in at the back with metal and mounted on a base so as to make the cut type high, and is then ready for printing.

Zinc etching—"line work"—is the process in most general use. The primary essential for a good result in zinc etching is a pen sketch drawn with black ink on a good white paper, in which all the various degrees of light and shade are produced by a series of dots and dashes or lines. Other originals than a drawing can be used, but as the process is one of reproduction by photography the nearer the copy is to a good drawing the better will be the finished cut.

The drawings as a general thing are made to be reduced one-third or one-half. They are made larger for the reason that any imperfection there may be will not show so readily when reduced, and the finer detail can be worked up much better in a large drawing than in a small. When the drawing is finished it is turned over to the engravers. A photographic negative is made the size the finished cut is to be. The negative is dried and printed on zinc previously polished and coated with a sensitizing solution. The print on zinc is made in a similar manner to that employed in making a photographic print, the sensitized zinc place taking the place of the sensitized paper in a photo print. The print on zinc can best be made in good strong sunlight, an exposure of from eight to fifteen minutes being necessary, according to the density of the negative. If the day is cloudy or the work must be done at night, the print is made by using a strong electric light, when it is necessary to make a much longer exposure. The action of the sun or electric light chemically changes the albumen solution on the zinc plate in just the places where the negative is transparent; these transparent portions correspond exactly with the lines on the original drawing. After the plate has been exposed the proper length of time it is rolled up with a special ink and then developed, all of the ink being washed off except the portions chemically acted upon by the sunlight. These portions, as stated above, are the same as the lines in the original drawing, so that when the plate is thoroughly developed we have a perfect facsimile of the original drawing on the zinc. The plate is next powdered up, that is, brushed over very carefully with "dragon's blood," a prepared resinous powder, the powder adhering only to the ink lines which show on the print. After the powdering the plate is highly heated so that the powder just applied is melted and joins chemically with the ink lines and forms a solution which resists nitric acid. As soon as the plate is well burned in it is put in a weak solution of nitric acid and by giving the tub of acid a rocking motion the exposed portions of the plate are etched or eaten away. When the proper depth is reached the plate is dried and again powdered up, and the same operation of etching is gone through with again. Each separate etching of the plate after it has been powdered up is termed a "bite." Plates are given from three to five bites according to the subject. When the etching of the zinc is finished the plate is ready for routing. The routing or cutting deeper of the large open spaces, which are to appear white in the finished print, is done by means of a machine which has a revolving spindle so arranged that it drills or cuts away the superfluous zinc very rapidly.

The latest and quickest method of producing cuts for papers is the half-tone process.

The best copy for half-tone work is not made up of lines and dots as for the methods previously described, but must be one in which there are all the various gradations of lights and shades; that is, one in which all the half shades or half-tones are shown. A photograph or wash drawing is such a copy.

The difficulty of the early process workers was to find a satisfactory method of reproducing these half-tones of the photograph in surfaces for mechanical printing.

In typographic blocks it was easy to reproduce high lights and blacks, as described in the process of wood cutting; but what would become of the half-tones? It was not possible by the process of passing a roller over a block to lay half a shade of ink on certain portions of a block. Thus it was a picture without half-tones; a picture of pure whites and solid blacks. But the early process men kept at work and noticed how the wood engraver produced the different degrees of light and shade and that the steel plate etcher and lithographer secured their different gradations of color by taking advantage of fineness or coarseness of stippling or the grain of a coarsely ground stone. Thus it was argued that if the half-tones of a photograph could be broken into some sort of a grain or dot the problem of making the photograph into a printing block would be solved. This problem has been solved. The first attempts were made by placing a piece of coarse cloth in front of the sensitive plate for a negative. In this way the photographic image was broken up into a grain which reproduced the photograph in dots of varying sizes. Half-tone reproduction was accordingly achieved, and the method was called the half-tone process.

Having a good photograph to work from, the first important requirement is a screen. This consists of two pieces of plate glass cemented together, and on the inner sides of the two plates are ruled parallel black lines, the lines on one plate crossing those on the other at right angles so as to form a network. The screens are ruled in various degrees of fineness, the ruling determining the grain point. For cheap paper, such as for poster work, about fifty-five lines per inch are used. For newspaper work about 85 to 100 line screens are used, and for such half-tones as those on page 81 screens ruled from 133 to 175 or even 200 lines per inch are used. The finer the screen used the greater the amount of detail preserved; the coarser the screen the greater the contrast. What is required in a half-tone negative is a means of printing the picture on the zinc or copper plate in dots of varying size—big and medium dots for half-tones, and fine dots for high lights. Now, to have dots, one must have a negative, punctured, so to speak, with holes. This negative is secured by placing the screen in front of, but not in contact with, the sensitive plate. The screen is placed about 1-32 of an inch from the sensitive plate. The negative made, it is printed on zinc or copper and developed in a manner similar to that employed in zinc etching. The plate is developed until the sensitized enamel solution is left only on the dots, the spaces between being washed away until the surface of the copper or zinc is left bare. The plate is then "burned in," and the enamel solution on the dots is hardened so as to protect them from being etched away. The plate is then etched in a solution of per-chloride of iron and is left until the dots stand in sufficient relief to yield a printing surface. The coarser the screen used the deeper the plate can be etched, and consequently the coarse half-tone prints better on a cheap paper; and as the dots are larger, they take the ink better on the high-speed press. For this reason the coarse screen half-tone is most suitable for newspaper printing, but such cheap work would not look well in the columns of the Pacific Rural Press.

The methods of producing half-tones are being continually improved. There is now a method being worked up of producing a half-tone plate without the intervention of a screen, and some quite successful results have been obtained. Half-tone negatives are also made direct from the object, so that a great deal of time is saved by not having to wait for a finished photograph.

According to the Marysville *Democrat* a new species of grass has made its appearance in the pastures that border on the tules in Sutter county. It grows to the height of 1 or 2 inches, having a blossom resembling white clover. It is called carpet grass on account of its resemblance to Brussels carpet. Horses and cattle eat it, and honey bees make fine honey from the blossoms.

Miscellaneous.

The miners' inch equals .02499 cubic feet per second, 1.4994 cubic feet per minute, 89.964 cubic feet per hour, 2159.146 cubic feet per day of twenty-four hours.

The present stock of gold in the United States is stated to exceed that in any country in the world, being estimated at $975,454,000, which is 50.05% of all our circulation and $12.81 per capita of population.

It is said that the flow of water in Lytle creek, a stream flowing south from the San Gabriel range a few miles west of San Bernardino, Cal., has increased 175 inches since the recent earthquake in that vicinity.

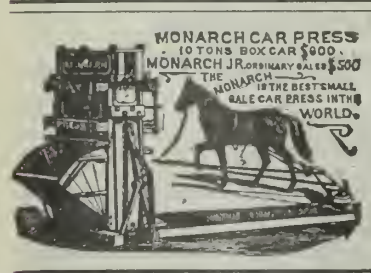
"The fastest Transatlantic steamship run to date" is the trip ending the 15th ult., of the Kaiser Wilhelm, Sandy Hook lightship to Cherbourg, France—5 days, 20 hours, 55 minutes—3190 miles, an average of 22.65 knots, or 26 miles, per hour.

Copper coins are now being imported from India to the United States as "copper scrap" for remelting and commercial use, being worth more as bar copper than in the shape of coins. It is asserted that Chinese copper coin is susceptible of similar profit in the same way.

Death Valley is in Inyo county and Salton basin is in Riverside county, Cal. Both are below the level of the sea. The floors of each are occupied by salt marsh, and the thermometer frequently rises above 125° F. in the shade. At Salton men live all year round and collect the salt. The air is absolutely dry. In a humid atmosphere few human beings could endure such a temperature.

In constructing dams it should be remembered that if an absolute barrier be built across the stream, and no gate provided at its base, the reservoir in time will become filled with sand and silt and its usefulness ended. This may be obviated by the construction of a gate in the dam at the lowest part of the channel, through which the reservoir may be emptied periodically at a time when it will not interfere seriously with the purposes for which the dam was built. The deposits of detritus take place at the upper end of the reservoir and should not be allowed to accumulate in too large an amount.

For many years scientists have claimed that a series of earthquakes was always followed by the active eruption of one or more volcanoes. Whether or not there is any significance in this cannot positively be known, but it is usually the case. Earthquakes have been of frequent occurrence of late, in various parts of the world, and volcanoes are active which have been dormant for years. Mount Ætna, on the island of Sicily, and Mauna Loa, in the Hawaiian Islands, are both active, the latter pouring forth a great volume of molten lava, which is flowing down the slopes of the mountain to the sea. Whether these volcanoes are safety valves which, when active, relieve the pent-up internal forces of the earth remains to be seen.



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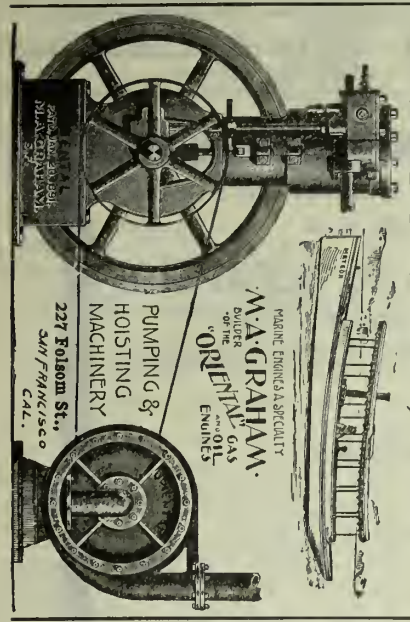
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LIVINGSTON, CAL., April 15, 1899.

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Grain for Paris Exposition.

M. A. Carleton of the United States Department of Agriculture has been traveling through the State for several weeks in the interest of the proposed grain exhibit at the Paris Exposition, and is now ready to turn over the work, so far as California's interests in the exhibit are concerned, to the California Paris Commission. From present indications, he says, California will have a most creditable exhibit. The grain exhibit will be divided into three branches. The first will show grains in four-quart glass jars and will be divided into geographical districts. The second will show samples of grain for export, each package containing several bushels. The third will consist of growing samples of wheat, barley and corn, secured upon white panels and placed in octagon glass cases.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING JULY 18, 1899.

629,119.—ROTARY ENGINE—W. W. Andrews, Los Angeles, Cal.
629,102.—HEAT INSULATING COVERING—Borrowe & Lumley, S. F.
629,231.—HORSESHOE—W. Cahill, S. F.
629,122.—WATER HEATER—C. A. Davis, Pasadena, Cal.
629,154.—HAT HANGER—Carrie Easton, S. F.
629,156.—LAND GAUGE FOR PLOWS—R. B. Fentern, Newman, Cal.
629,030.—HAY PRESS—W. H. Gray, San Leandro, Cal.
629,294.—MORTISING MACHINE—G. H. Heady, Los Angeles, Cal.
629,034.—BOX COUCH—J. Hoey, S. F.
629,254.—CORNET SHANK—Horn & Wain, S. F.
629,039.—RECIPROCATING MOTION—Luitwieler & Wilkinson, Los Angeles, Cal.
629,044.—CATAPULT—C. F. McGlashan, Truckee, Cal.
628,956.—HORSE DETACHER—J. Orteig, Phœnix, A. T.
629,137.—PLOW—Spaulding & Robbins, S. F.
629,138.—PLOW—Spaulding & Robbins, S. F.
628,962.—PILE DRIVER—A. C. Speer, Woodville, Ogn.
629,098.—ORE CRUSHER—Turman & Hampton, Los Angeles, Cal.
629,115.—CABLE REEL—E. Turney, Portland, Ogn.
629,055.—TOP—J. Wallace, Sacramento, Cal.
629,282.—GAS GENERATOR—Wheelock, Walker & Diers, Tacoma, Wash.
629,144.—WOOD SPLITTING MACHINE—P. F. Wise, Los Angeles, Cal.
629,023.—ROASTING FURNACE—L. T. Wright, Keswick, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

CONTINUOUS SPINNING TOP.—James Wallace, Sacramento, Cal. No. 629,055. Dated July 18, 1898. This invention refers to tops and means by which they may be made to spin and the motion kept up indefinitely by occasional pressure. The top consists of a disk or other form of suitable weight and size having a hollow central shaft extending above and below. A point at the lower end of the shaft serves as a support upon which the top may spin. Within the shaft are lugs or pins and a screw of rapid pitch is adapted to slide between these pins. A spring in the bottom of the hollow shaft forces the screw up, and when, by pressure upon the head of the screw, it is forced down without turning, it causes the top to turn by its action on the pins between which it passes. As soon as pressure upon the screw is released it rises and when again pressed upon the same action takes place. A sufficient speed of rotation is thus produced to keep the top in rapid motion, and whenever it begins to run slowly one or two more pressures upon the screw will increase its speed and keep it running. In order to conveniently apply the pressure a pressure head is fitted to the stem forming the upper end of the screw and is loosely turnable upon it, when no pressure is applied to the head. When pressure is applied to the head it forces it into contact with a disk which is fixed upon the screw shank, and sufficient frictional contact will be produced to prevent the screw from turning so that the downward pressure acts through the screw to turn the top. As soon as pressure upon the head is relieved the screw can turn freely in unison with the movements of the top and without retarding its rotation.

HAY PRESS.—W. H. Gray, San Leandro, Cal. No. 629,030. Dated July 18, 1899. This invention relates to improvements in hay presses of that class in which the follower is moved in the press box by means of a horse or other power transmitted through a chain sheave and intermediate machinery. The invention consists of a vertically journaled column, a chain-driving sheave fixed thereto, mechanism by which the column and sheave are turned sufficiently to compress the bale, then disengaged and allowed to return to their normal position, an air cylinder with a plunger movable therein and adapted to form a cushion when the parts are allowed to suddenly return after being disengaged. A spring-pressed latch pivoted upon the lever arm and a lug projecting from the sheave engage each other and move the arm until the piston has reached the end of its outward stroke, the lug being then detached or disengaged.

CATAPULT FOR THROWING PROJECTILES.—C. F. McGlashan, Truckee, Cal. No. 629,044. Dated July 18, 1899. The object of this invention is to provide a catapult or mechanism which can be made available for the purpose of throwing bombs and other projectiles to a distance, and means by which the trajectory and distance to which the projectile is thrown may be accurately estimated and proper provision made to accurately place it. It consists of a plurality of coiled springs having anchor arms by which the ends adjacent to the coil are held in place, means for drawing down the long or throwing arms so as to produce a tension upon the spring which will act when the arm is released to throw said arm through its arc of travel at a high rate of speed. This throwing arm is provided with a cup which is adapted to hold the projectile, and means for lengthening the arm and adjusting the cup are also provided. A scale is fixed with relation to the arms so that the trajectory and distance to which the projectile may be thrown by the use of springs can be accurately determined.

BOX COUCH.—John Hoey, San Francisco, Cal. No. 629,034. Dated July 18, 1899. The object of this invention is to provide a couch, sofa or like article in which an improved means is shown for connecting the seat and upper portion with the box base, and to provide for a graceful configuration of the front in making the connections. The couch is made in two parts, the seat portion and the box base, the latter having the upper part extending toward the main vertical end of the box and a transverse uniting strip between the projecting ends. The rear edge of the seat is hinged to the base, and at the corresponding end of the box is an arm extending upwardly and outwardly with a downwardly depending projection which overlaps the end of the box extension. The front of the arm and the front of the box have a continuous line of reverse curvature from the top of the arm to the bottom of the box. A connecting concavo-convex link is pivoted upon the tilting seat portion and has its lower end slidable through a link or loop which guides it in opening and closing, and which forms a stop to hold it in place when the seat has been opened for the purpose of removing the contents of the box.

Industrial Notes.

—There is a general advance of $2 per M. feet on lumber.

—A branch line of the Sierra Railroad is to be built from Jamestown to Angels, Cal.

—Skaguay, Alaska, and Dawson, N. W. T., will be connected by telegraph Oct. 1st, '99.

—Government engineers have completed the survey for the new $20,000 reservoir near Florence, A. T.

—War revenue stamps to the value of $3160 were affixed to a deed in Oakland, Cal., this week, transferring the property of the Oakland Water Co. to the Contra Costa Water Co.

—The Southern Pacific Co. has increased its capital stock from $150,000,000 to $200,000,000, pending the reorganization of the Central Pacific Co., and its consolidation with the S. P. Co.

—Prof. Le Conte, head of the geological department in the University of Cal., thinks that there is no connection between the recent volcanic eruption in Hawaii and the southern California earthquakes.

—Labor on railroad work and in harvesting crops, etc., is still reported very scarce in California. The Southern Pacific Co. say that their construction work is delayed because of inability to get laborers.

—The Hawaiian Islands are U. S. territory. The Philippine Islands are not. A sealed letter can be sent from the U. S. to the Philippine Islands for 2 cents; the same missive to the Hawaiian Islands costs 5 cents.

—James J. Hill, president of the Great Northern Ry., says that he sent 16,000 track laborers out in the past twelve months, and yet has had not more than 2500 men at work at any one time, the conclusion being that the most of them find work that suits them better in other lines. West of the Dakotas he employs more Japs than men of any other nationality, not from choice, but because he was obliged to. He says: "Every healthy man who is idle in the United States to-day is so from choice. I do not say that every carpenter can get carpenter work to do, or that every plumber can find a job at his trade, but if he will take what he can get every idle man in the country can go to work as soon as he is ready to. At this moment there are jobs ranging in pay from $1.25 to $3 and $4 a day for 100,000 men in the Northwest."

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Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c per bottle. Sold by all Druggists. Testimonials free.

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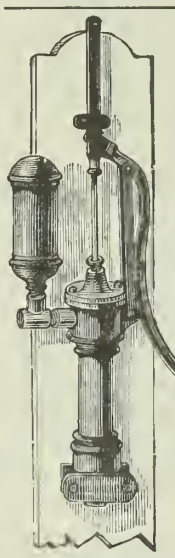
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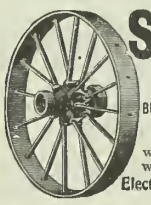
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Grangers and State Fair.

At the regular quarterly meeting of Sacramento County Pomona Grange, No. 2, the question of the Grange entering into the spirit of determination of making the coming State Fair a decided success was taken up, and the hearty willingness of the members present was manifested by the unanimous adoption of the following resolutions:

WHEREAS, The State Fair for 1899, under the auspices of the State Agricultural Society, is to be held in this city from September 4th to 16th, and that this society has not met with the moral and financial success in the recent past that we deem it deserves, and realizing that this annual gathering should have the unqualifed support of every citizen of the city and county of Sacramento; and

Whereas, The annual State Fair is a most valuable medium of agricultural and industrial education, and is held chiefly to foster the farming and producing interests of California; therefore, be it

Resolved, That Sacramento County Pomona Grange, No. 2, a district Grange for the county of Sacramento, this day assembled, take such action as to awaken a renewed interest in every subordinate Grange in Sacramento county and throughout the State, asking them to give this society their moral and financial aid; and especially do we invite the hearty co-operation of the Grangers of this county, and farmers and citizens in general, to use every effort to make the coming fair one of the best in the history of the association.

Resolved, That as Tuesday, Septemher 12th, has been designated as "Grangers' Day," that we send a special invitation to every member of the Order in the State, asking them to visit the State Fair, and especially to be with us on this particular day of our annual jubilee; and further

Resolved, That Sacramento County Pomona Grange make such arrangements that will insure accommodations and comfort of our visiting brothers and sisters on this occasion, and that the Master of this Grange appoint committees to take charge of such arrangements.

A letter from the Secretary of the State Agricultural Society, granting the Exhibit Committee (two members of which are from the Grange) a very desirable space, and a short talk from Mr. Emlay, who is in Sacramento looking out for the agricultural department of the Paris Commission, seemed to enthuse the members, and there is no doubt that every Granger in Sacramento county will contribute largely to the exhibit of his choicest fruits and grain.

The feature of Tuesday, Sept. 12th, being designated as "Grange Day" at the Fair, will be an assured success, as every Granger in the county will turn out on that day, in particular, as well as thousands of other members of the Order in the State, to whom it is proposed to send special invitations.

San Jose Grange.

San Jose Grange met in regular session Saturday at their place of meeting at Hale's Hall, states the *Mercury*.

Briefly disposing of the regular work of the Order, four candidates upon whom the third and fourth degrees were to be conferred were brought in and the ceremony gone through with. While the mysteries of the Order were being revealed to the candidates in the lodge-room, a committee of the Patrons were busily engaged in the dining-room in the preparation of a feast of good things.

The ceremony of initiation being completed, the members duly repaired to the dining-room and showed their appreciation of the labors of the committee in a most tangible manner.

Worthy Master Leigh was present—the first time for several weeks—and occupied the place of honor at the head of the table. The Secretary, Mrs. Woodhams, was reported sick.

O. H. Jefts, Mr. and Mrs. Cornell and several other members of the Los Gatos Grange were present, the guests of the occasion.

Los Gatos Grange.

According to the San Jose *Mercury*, an important meeting of Los Gatos Grange was held last Thursday, at which there was a good attendance.

A constitution and by-law for the organization were added, thus completing the work of organization and placing it on a substantial basis.

The Grange starts out with thirty charter members and with a fund of enthusiasm that assures its rapid progress. Meetings will be held semi-monthly on the first and third Thursday of each month at 2 o'clock P. M.

Breeders' Directory.

Horses and Cattle.

HOLSTEINS—Winners of every 7 days' butter contest at State Fair 1898 1st & 2nd for aged cows, 4-yr., 3-yr. & 2-yr.-olds; *21 Jerseys & Durhams competing.* 4th year my Holsteins have *beaten* Jerseys for butter. Stock for sale; also pigs. F. H. Burke, 626 Market St., S. F.

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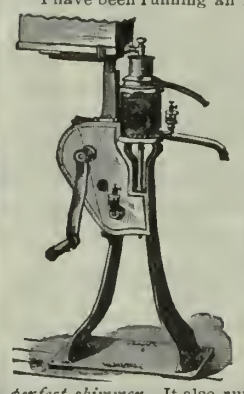
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FRUIT MARKETING.

Fruit Prices at Various Points.

SANTA ANA, July 28.—Some dried 'cots were sold Saturday for 9¼@9½ cents, but it is not believed that the buyers will get many at this price.—Blade.

SAN JOSE, July 27.—We have learned of sales of Foster and Mary's Choice peaches at $25, which is an advance on previous offers. No new contracts for clings reported. One orchard of prunes sold for $30; one other, name not learned, of very fine fruit at $48; others at $32.—Tree and Vine.

SAN JOSE, July 29.—G. M. Moody, Stevens creek road, has a fine crop of 'cots which he sold to the cannery for $50. S. R. Johnson sold his 'cots to the cannery for $50; peaches, except Muirs, at $25. He will sell his Muirs for $30 or will dry them. Mrs. Mastic, McLaughlin avenue, sold her cling peaches for $40 per ton. A. W. Cook, Hazel avenue, is picking his 'cots and has sold the entire crop, including all sizes, for $40 per ton.—Mercury.

SANTA PAULA, July 25.—The lowest prices for fresh 'cots this year is $15 per ton. The highest price paid in this vicinity last year was $21 per ton. The highest this year is $35 per ton. Most of those who have dried their fruit will hold for 10 cents.—Chronicle.

MERCED, July 28.—Peach growers will make money this year. They have a very heavy crop and prices are good. Fruit men are already in the field and several peach orchards have been sold. In one that I know of the fruit was graded—first, second and third class. The first class brought $18, second $12, third $11 per ton and others $15 per ton.—Sun.

SANTA ROSA, July 26.—The entire blackberry crop of Bond & Co., at Forestville, consisting of about ten tons or more, has been purchased by T. S. Merchant, the price paid being $45 per ton delivered at the Forestville depot, the necessary chests being furnished by Mr. Merchant. The peach, pear and plum crop of Mrs. Miller has also been purchased by this gentleman at the following prices: Crawfords, $25 per ton; Cling peaches, $20; plums, $20. Mr. Merchant has also bought the Bacigalupi crop in Green valley, as follows: Seventy tons of Crawfords at $20; fifty tons of Salways and twenty-five tons of Lemon Clings, $25; Egg plums and Damsons, $20.—Press-Democrat.

SANTA ROSA, July 27.—One company is paying $25 per ton for Freestone peaches and $30 for Clings, while other canneries are paying only $20 and $25.—Republican.

PASADENA, July 25.—Secretary Ashby of the Deciduous Fruit Growers' Association reports the sale of the entire dried apricot crop for 9½ cents per pound. A San Francisco house has secured them.—Herald.

LOS GATOS, July 28.—Some are contracting their prunes at $30 to $32 per ton, while others are holding off and say if they cannot get more than that they will dry them. The price will likely range between $30 and $35.—Mt. View Register.

SUISUN, July 28.—The total output of dried apricots in Suisun valley will not be more than two carloads. Dried apricots were sold at from 10 to 11 cents per pound. During the present season growers have realized more from Bartlett pears than in any previous year. The price obtained averaged $35 a ton or about 95 cents per box or more, f. o. b. A few small lots that were not sold until very recently brought higher figures.—Republican.

Dried Fruit Packing House.

According to the *Sentinel*, the Inderrieden packing house on the Valley Road in Hanford, just being completed, is a model building for that business. Fruit men and builders who have inspected the new building have pronounced it to be without an equal in the State for the purpose for which it is intended. This reflects great credit on Manager Hoag, as the entire building from office to engine room was constructed under his supervision, and in accordance with his plans as to how a packing house should be built, and upon Dave Gamble, superintendent of construction. The building faces 170 feet on the railroad track, and, including porches on each side, is 100 feet wide. This large space is divided up into a stemming room 100x76 feet, an engine room on the north end 10 feet wide, a packing room 50x60 feet, office 20x16, private room 15x16, scale room 15x16 and sweat rooms 15x32 feet. The office, scale and private rooms are located at the northwest corner of the building and the weighing-in scales are close to the office, reducing the work of receiving to a minimum. In the engine room a new engine and boiler of 20 H. P. capacity have been placed in position, with steam pipes leading to the sweat rooms, where waste steam will be utilized.

Dried Fruit in Germany.

In reply to inquiries by the Oregon Board of Horticulture, Vice-Consul General Hanauer writes from Frankfort, June 5, 1899, in part as follows:

The import duty of 30 marks per 220 pounds on canned fruits or preserves is an obstacle to the sale of United States fruit prepared in this way. Dried and evaporated fruit, however, can be sold at a profit. Up to this time only dried plums have reached this market from Oregon. Large plums, packed in boxes holding twenty-five pounds, bring an average price, f. o. b. Portland, of from 4 to 5 cents in United States currency. The boxes should be lined with good paper and be artistically labeled. Apricots, pears and nectarines should be packed also in boxes containing twenty-five pounds each. Evaporated apple rings should come in fifty-pound boxes. Dried pears and apples are packed in hogsheads. Care should be taken that the fruit be dried or steamed on wooden frames, not on zinc, nor should they be bleached by the aid of metallic substances, as the law prohibits these methods.

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are better "lookers" than "stayers." Don't buy until you "see 'em go." You know **Page Fence** has been "on the turf" fifteen years.

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Eastern Fruit Reports.

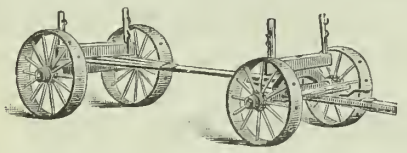
The Georgia section of the Weather Bureau, July 25, says: Melons are failing and the quality is generally far below the average.

The New Jersey section, same date, says: The outlook for apples, pears and peaches is very promising in the central and northern counties. In the southern section apples are the best of all orchard fruit; pears only fair. There are practically no peaches in this section. Many peach orchards in Middlesex, Hunterdon, Somerset and Sussex counties have now a good set of fruit, that are remaining on the trees.

The Missouri section, same date, says: Except in the northeast district, fruits are generally inferior, especially apples, which are wormy, knotty and dropping.

A Low Wagon at a Low Price.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30-inch wheels with 4-inch tire.



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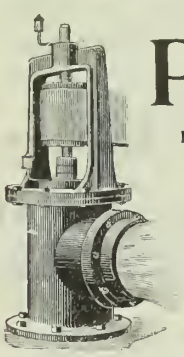
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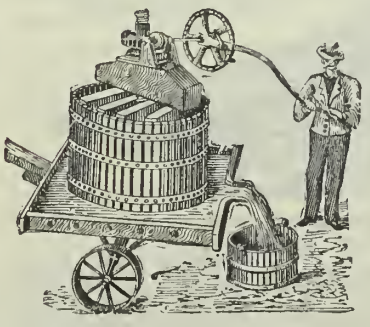
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represents full hay press value. It is the only press **SENT ON TRIAL** and sold under a **Guarantee to bale 3 tons more hay in 10 hours** than any other two-horse press made. Makes every bale exactly same size—You can get better weights in a car. Circulars and prices on application

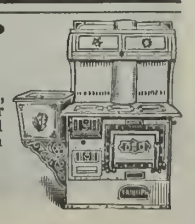
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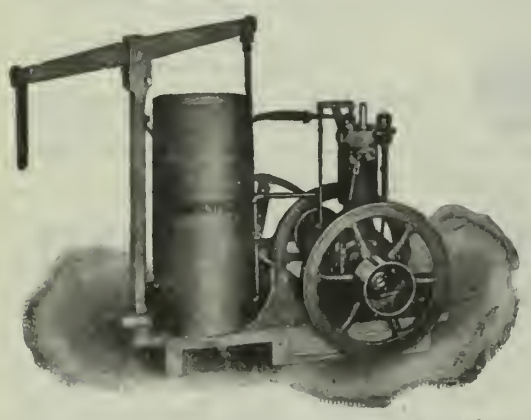
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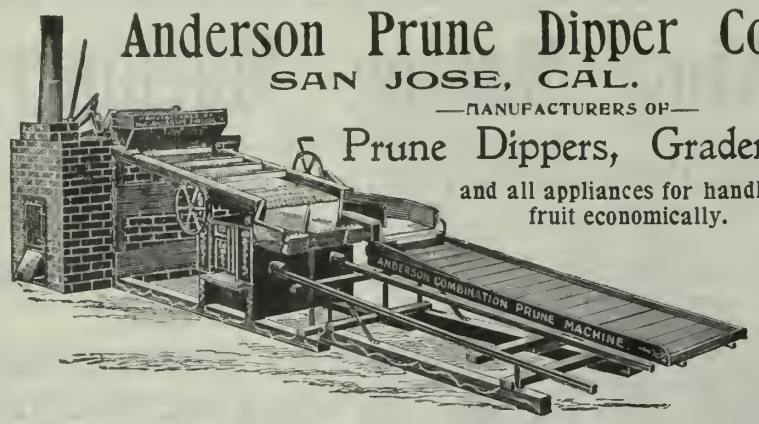
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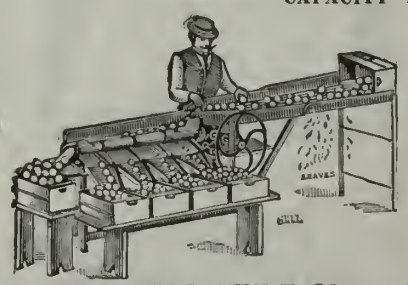
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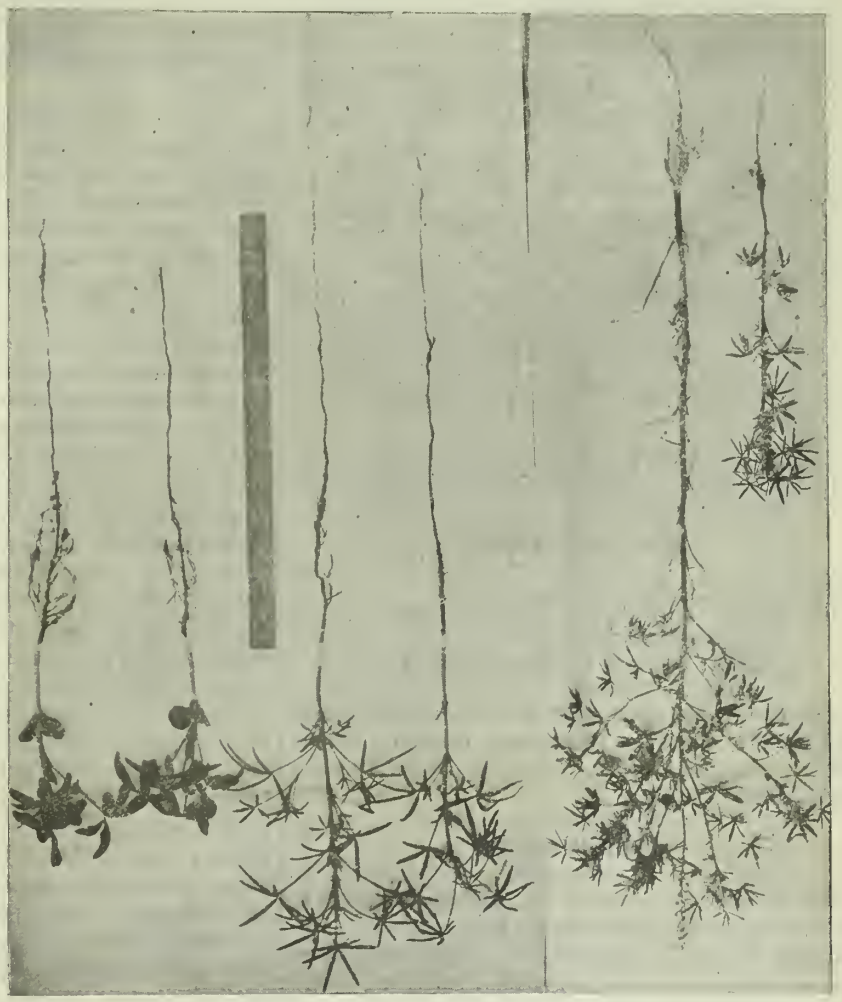
A CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 7 SAN FRANCISCO, SATURDAY, AUGUST 12, 1899. TWENTY-NINTH YEAR. Office, 330 Market Street.

More About European Lupins.

So much interest has been awakened in the University experiment with European species of lupin with a view to secure a better winter-growing legume, as described in the PACIFIC RURAL PRESS of July 8th, that we make another reference to the undertaking. This work is somewhat allied to that attributed to Secretary Wilson in last week's issue, except that this quest is chiefly for horticultural account with the idea of restoring to worn orchard land by growing legumes while moisture is ample in the winter, while Secretary Wilson contemplates a legume or some other plant which can be grown on summer-fallow. Both propositions are important, for one of the chief needs of California soils is humus.

At the University Experiment Station in southern California during the current year quite an amount of lupins of different species has been grown, and seed has thus been secured for those who desire to extend the University work by making trial of lupins on their own places. All who desire to help in this work may address the Agricultural Department of the University at Berkeley, enclosing 12 cents in stamps to pay for packing and postage upon one pound of the seed. It is desirable to make an early start with the lupin seed to get a good stand to plow under at proper time in the latter part of the winter. The seed should be ready to start with the first deep-wetting rain or by a fall irrigation. The advantage of an early start is shown in one of the engravings used herewith. The first figure on the left of the plate showing the growth of the Small Blue lupin at Pomona is of a plant from seed sown November 17th, while the next one is from seed sown September 28th. Obviously, a field covered with the latter plants would have many more tons of green stuff to plow under than the former, and it is wise to get a start as early as moisture is available for growth. One advantage of the European lupins over our native California species lies in the early start and winter growth. While the California lupin seed will lie dormant or make small growth during the winter waiting for the spring warmth to grow rankly, the European species, apparently grateful for such warmth as a California winter furnishes, starts early and grows rapidly before the California lupin thinks it is time to wake up. All these matters of behavior of these plants need to be determined for the different localities, and for this reason the University desires to multiply experimenters by securing the help of all those who take an interest in the matter.



LUPINS GROWN AT POMONA—FOUR SMALL BLUE AND TWO LARGE BLUE.



SMALL BLUE LUPIN, GROWN ON THE UNIVERSITY GROUNDS, BERKELEY.

The engravings on this page are reproduced from a recent University bulletin on the lupins. The species chiefly shown is the Small Blue lupin. It is a kind now grown extensively for green manure, both in Germany and France, especially about Bordeaux. According to Cornevin, it was more largely grown in France in former times than at present, being used for feeding sheep; it has been neglected for this purpose of late years, on account of its poisonous qualities. Langethal considers that it is of small value as green forage, on account of the hardness of its stems, but that the large amount of seeds produced, which are also fed to stock, renders it a valuable crop. Its free seeding is of course a good point for a green manure plant.

This species does not succeed in all parts of the State. It is very slow to grow on the granitic and red soils around Jackson, in Amador county. In southern California, however, it grew well, and at Berkeley it started readily and made a good stand on black adobe soil, stands frost well and grows robustly. It is, however, somewhat disposed to make woody instead of a soft, herbaceous growth, which would unfit it to rot readily in the soil.

The Large Blue lupin is the most promising of the group for some parts of the State. Seedlings of the species thirty days old are shown on the right of the upper plate, while the plant with its first flower is shown in the smaller picture. There is still enough undetermined about these plants to make them interesting.



LARGE BLUE LUPIN.

PACIFIC RURAL PRESS.

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Advertising rates made known on application.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, August 12, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Harvest hurry continues, for, though the grain is largely handled, the fruit is just coming to its greatest volume. Shipments of fresh fruits have been very large, several long trains each day laboring up the side of the Sierra to take their ice before going out upon the burning plains. It looks as though the peach shipments this year would more than balance any shortage in other lines. Canners and driers are pushing ahead as rapidly as possible and are giving employment to thousands of people. These products, too, will be large, and the best of it is they promise to sell very well—in fact, are already largely covered by orders at profitable rates. The totals for the year will be very satisfactory in most lines of produce, and a good, heavy rainfall will bring all parts of the State into the lines of prosperity and progress.

The greatest enthusiasm prevails over the preparations for public welcome to the California volunteers now on the Pacific en route from Manila. There will be an immense demonstration in this city and no doubt people will gather from all parts of the State to see the boys come home. San Francisco has been thanked for her enthusiasm over the return of other State troops which have landed here—just wait and see what will be done for our own boys.

The markets are rather quiet this week and the particulars of various movements are given in full in our market review on another page. The weakening of wheat and barley does not seem to be well grounded and some signs of recovery are noticed. Brewing barley is still going out for Europe and part of a cargo of rye for Belgium indicates that this grain, which is popular in some parts of San Joaquin county, has a call abroad. Hay is no better yet, but there is inquiry now to fill warehouses, and the bottom seems to have been reached. Onions have sold very high to fill Government contracts for Manila—almost twice the contractors' price, they say. Potatoes are in good demand and supplies moderate. Dried fruit is in good demand.

Forestry Affairs.

The last few weeks have been rather notable in the progress of forestry affairs in California. The convention of the American Forestry Association in Los Angeles, of which we have an outline on another page of this week's issue, naturally made prominent the phases of forestry which are related to water supply and irrigation. This was to be expected in an irrigated district in a year when irrigation facilities seem more precious and desirable than ever before, and when the retention of the present mountain cover and its improvement are clearly seen to be the key to the industrial future. Certainly the convention was valuable as a means of enforcing these facts upon the public mind and in promoting measures which it is very desirable to realize as soon as possible.

The week at Los Angeles was followed by several conferences on forestry in San Francisco, which showed that the recognition of water value and power is advancing even in parts of the State which have formerly taken some satisfaction as designating themselves as "unirrigated." The importance of abundant flowing water to mining and transportation, and irrigation as well, even where there is considerable winter rainfall, is becoming better appreciated. This view was conceded without dispute, but still the truth was so impressive that it was continually insisted upon.

Another aspect of forestry, which naturally became more prominent in San Francisco than in Los Angeles, was the need of some scientific advice to lumbermen as to the administering of their enterprises so as to secure their current crop of lumber without ruining the prospect of other crops, to protect the lumber from its foes and to prevent immense wastes which are at present allowed. It was shown by Mr. Pinchot, chief of the forestry division of the U. S. Department of Agriculture, who attended all the conferences, that the first step toward any scientific forestry in this State was a careful forestry survey to secure such complete and accurate knowledge of the condition of affairs, the character, area and distribution of forest growths, the data of maturity in our different timber trees, etc., as is necessary before pertinent information and intelligent advice can be given. Such work as this for the California forests, Mr. Pinchot is desirous of doing. The great eastern and central areas of the country look upon the Pacific coast States as their future supply region, he says, and the far-seeing ones are desirous that our timber resources be husbanded and wisely administered. The forest survey work on this coast has already begun and most of Mr. Pinchot's available funds will be expended this year in the State of Washington. He is anxious to secure appropriations from the next Congress large enough to take up forestry survey in California. The State is so large and its forestry conditions so extensive and varied that the undertaking will be a large one, but it should be taken up as soon as possible. A forest survey in the present sense of the term is not merely a geological location and measurement of the forest area, but a determination of the kind and condition of tree growth, measurement of trees, determination of the timber ripe for cutting and the indications of forest renewal and the agencies which advance or repress it. When this is had and intelligently interpreted, it is possible to learn exactly the state of our forests and what may be expected of them, if wisely administered, for generations to come. At present knowledge on the subject is hazy, controversy prevails as to forest management, and the end which all should have in view—the preservation of our forest area on all lands not required for agriculture or mining—is obscured by quarreling over matters of method which cannot be definitely decided without fuller and more exact knowledge.

It seems likely that California's representatives at Washington will advocate measures looking toward a forest survey of California this winter. Some of them have been making observations for themselves in unfrequented regions of the Sierra and are reported to have been deeply impressed with the fact that California knows very little of her own forests and is sadly neglecting them.

One of the most interesting features of the San Francisco meetings was the participation of some of the representatives of the largest lumbering enterprises of the State. These concerns are reported to be favorable to scientific forestry work. They wish to know all the facts about the best way to handle forest properties for their own and the public good, and though they naturally resent interference from inspection of the perfunctory and political sort, they welcome knowledge and advice of the true type and are disposed to act upon it to preserve the forest area and to prevent waste and destruction. We are not aware that the timber-cutter has been drawn into forest conferences before in this State, though it may have happened. In any event it is a good thing and promising toward the general ends in view. Forests in the older countries are scientifically administered. In New York State the lumber interests are watching with the greatest interest the work of the foresters of Cornell University and hope to learn something from them.

Incidentally the subject of forestry instruction was advanced at all the conferences we attended. Desire was expressed that the State University be provided with expert instruction, so that there might be trained a good supply of young men to undertake forest management, as is being done in older countries. California conditions are peculiar and we must educate our own foresters for our own forests. Mr. Pinchot favors that and says that if the Government forest survey is undertaken he can furnish opportunity for field work for many forestry students. There is apparently in this work careers for quite a number of bright young men who will adequately preface themselves. We trust much of this may be realized and that all Californians, both young and old, may learn more of the trees and how to use and save them for the future welfare of the State.

Prof. F. H. Newell, Chief of the Division of Hydrography of the U. S. Geological Survey, after careful local study in southern California, is now in the central regions of the State observing closely conditions involved in the important irrigation inquiry which the Geological Survey has had in hand for several years. The "Water Supply" papers of the Survey have covered several California regions, and Part IV of the report of the Survey for 1897–8 is a magnificent array of facts relating to sources of water supply, ways of conservation, duty of water, etc. It this volume, too, are up-to-date matters relating to California. Prof. Newell is receiving the attention which he merits from our people and will address the Academy of Sciences at its meeting in this city on the evening of Aug. 14th, using the lantern to illustrate the subject of water supply and conservation. It will be an evening of much interest and all will be welcome.

The State Fair management is proceeding with this year's exhibition with much insight and energy. The premium list, which is is now offered to all who will apply for it to Secretary Shields at Sacramento, is a very taking publication in its style and it announces events of striking popular interest. The directors have been successful in securing novelties for this year's Fair which are really very progressive and important. A silo outfit in operation, showing the construction of the silo, the cutting of the crop for silage, constitute one feature which should attract much attention. And there are many others. Send for a premium list and look it over carefully. See if you have not something really creditable to exhibit, and give such time and means as you can spare to the Fair this year.

There is an interesting point about the gain of weight which a fruit grower may expect if he allows his fruit to remain on the tree until ripe for drying, as compared with the weight he would secure if he picked it at the time when canners and shippers will accept it for their uses. At the suggestion of the Pacific Rural Press J. B. Neff of Anaheim made some comparative weighings with his apricots this year. He picked and weighed 100 apricots as they ran on the tree when in canning condition, and then picked and weighed another 100 from the same tree when ripe for drying, and he concludes that he gained 10% in weight by waiting for ripeness. Will some other reader try the same thing on peaches and let us know the result?

QUERIES AND REPLIES.

Ticks on Fowls.

To the Editor:—I am having a new experience with my fowls this summer. Inclosed I send three specimens of an insect which seems to bury its head and part of its body beneath the chicken's skin. In form and size it resembles a bedbug, but darker color, and without the scent of that insect. I have raised fowls 45 years and have never seen anything like this before. Will some one please inform me what they are and how I can exterminate them?—Mrs. H. M. Beecher, Stockton.

To the Editor:—What can we do to clear the chicken house of a large tick that preys on the chickens at night and hiding during the day time? They kill all the young chickens they can get at. We have tried burning sulphur in the houses, but they are like all ticks, hard to kill. Sulphur fumes don't seem to phaze them.—H. C. Howard, Woodland.

The insects are ticks—relatives of the ticks which are found on hairy animals. They are more or less prevalent in the valley poultry yards. They establish themselves in the houses and are very hard to dislodge. Spray the house thoroughly with kerosene emulsion or clear kerosene—if you are not afraid of fire. Get it into all cracks and crevices. Clean up and burn every particle of litter and rubbish before spraying. You will probably have to fight the pests sometime until you get rid of them all. This is the best treatment we know of, but we are aware that it does not succeed with all who use it. Some advise lining houses with building paper to escape having crevices for the ticks to hide in. Others hang sacks near the roosts for the ticks to hide in and then boil the sacks. Others believe there is no escape except by hanging the roosts from above with iron rods, not allowing them to touch the sides of the houses at any point. The occurrence of these insects is one of the hard points about valley poultry keeping. If any one has a sure treatment we would like to hear of it.

Alfalfa Dodder.

To the Editor:—I send you a stalk of alfalfa with some sort of parasite growing upon it resembling corn silk. I like to know through your valuable paper what it is and if there is any cause for alarm as to its spreading over the whole patch.—A. C. Gehringer, Concord.

To the Editor:—Can you tell me what will kill love vine, or sometimes it is called golden thread, out of alfalfa? I have some very fine alfalfa but love vine is coming in it thick. Please let me know if there is anything to kill it, and what to do to keep it out of alfalfa.—J. M. Allison, Kings River.

This is "dodder," a very serious enemy of the alfalfa plant, and unless extirpated it will destroy the alfalfa. There is no application which will kill the dodder. The best treatment for small patches is burning. Cut the alfalfa where the dodder occurs, let it dry a little and then burn it, putting on some straw, if handy, to help the burning. This can sometimes be done without killing the alfalfa roots but it is a good idea to scratch up the spot and throw on some fresh seed. If the field is badly covered with dodder, it should be plowed under and resown with clean seed. The dodder seed comes with the alfalfa seed, and no alfalfa seed should be used except that from fields without dodder. The dodder seed is small and round and can be easily distinguished from the alfalfa seed with a magnifying glass.

Cracked Apricots and Prunes.

To the Editor:—I send herewith some apricots grown in San Miguel canyon, about seven miles from Watsonville, near the coast. This year we had a great deal of fog and, as you will notice, the apricots cracked. Is this defect to be attributed entirely to the fog, or is it caused by fungus? My prunes are also cracked remarkably this year, a great deal more so than during last year's dry season. I must, therefore, conclude that this also has been caused by the fog.—J. Baumgarten, San Francisco.

The apricots you send for examination are cracked by some agency which does not constitute a disease of the fruit. This cracking is a serious trouble in many parts of the State, and with the apricot and prune seems to prevail most within certain distances of the bay or the ocean. The cause has not been fully demonstrated, but it seems to be due to rapid changes in the atmospheric humidity. Probably the intrusion of a fog after a spell of dry atmosphere would occasion it. The matter has given fruit growers considerable concern with reference to all fruits, including the orange, which sometimes cracks enough to ruin a considerable part of the whole crop. Sometimes the cracking is due to the peculiar character of the year, as seems to be the case with you. Sometimes cracking takes place every year with certain varieties. There seems to be, from what we know of the cause, no cure which can be suggested. A selection of varieties not so liable to cracking, or growing of fruits which are not disposed to it, seems to be the only recourse.

Cabbage Worms.

To the Editor:—Please inform me through the "Queries and Replies" column how to prevent the ravages of a small, green worm that is working on the cabbages in the gardens in this vicinity. It is from ½-inch to 1 inch in length; it works well into the cabbage head, which makes it difficult to get at. —Subscriber, Fruitvale.

The worm is the larvæ of the cabbage butterfly *Pieris rapæ*. Successful treatment consists in the use of paris green, one pound to 150 gallons of water, sprayed on early in the season, so that the minute worms, as they hatch from the eggs which the cream white butterfly deposits on the young leaves, may get a bite of poison at once. It is too late to do anything after the worm gains entrance to the head. Several years' use of paris green in Eastern market gardens show that it is safe. As the cabbage heads from the inside, the poison is continually pushed outward, and the outer leaves are rejected in cooking.

A Kissing Bug.

To the Editor:—I send you a bug supposed by us to be the so called kissing bug. It bit or stung a member of our family last night, but excepting a slight swelling and some uneasiness there was no damage done. Is it the kissing bug that we hear so much about of late?—A Subscriber, Lancaster.

It is all right for a "kissing bug." There are two or three species on this coast: this is the most common one. Sometimes the bite is no worse than the sting of a bee, sometimes it is much more painful and lasting. We have had specimens from time to time for years: it will soon retire from its present newspaper fame.

Killing Stumps.

To the Editor:—When, in clearing pasture land, California laurels are cut, they create a spread of brush from the old roots that is an imperishable nuisance. Is there not some recognized method of poisoning with salt or acid so as to prevent sprouting?—Subscriber, San Rafael.

We have heard of various doses to put in auger holes to kill stumps—kerosene, sulphuric acid, white arsenic, saltpeter, etc.—but we have never seen demonstration of it. Such trials as we have made have not been successful, but we have not worked at it systematically. We have killed stumps best by peeling off the bark some distance under ground and watching not to let suckers get a start the first year.

The Peach-Almond.

To the Editor:—We send you by to-day's mail a sample of pits. Please inform us what variety and species they belong to.—H. S., San Francisco.

You send what is known as the peach-almond. It is a hybrid or cross of the peach and the almond and has been known for a long time. The first case in California occurred on the place of W. B. West of Stockton, back in the 50's, and other cases have occurred since. Seedlings of such pits have been used as nursery stock for peach propagation to some extent. Luther Burbank recently secured an intentional cross in this line by using the Wager peach and the Languedoc almond.

Kiln-Drying of Beans.

To the Editor:—Will you please give me a description of a drying kiln for beans and peas, or the name of the proper party to correspond with, about how much they cost and the quantity, quality and rapidity of their work, the cost of operating, and any other information about the marketing of a crop? I am trying to find some substitute for cotton, and beans and peas seem to do first rate in our soil.—Reader, Hearne, Texas.

We have not heard of kiln-drying of beans in this State. If it is practiced, will some reader advise us? Our autumn air is so dry that the legumes come bright and dry from the field. There are occasionally showers and losses from stained beans, but apparently not enough to warrant investment for kiln-drying. Our product of dry peas is not large, but we are tremendous on beans, and even Boston is dependent upon us for baked beans. Methods of growing beans in this State are fully given in our book on "California Vegetables."

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Aug. 7, 1899.

Alexander McAdie, Forecast Official and Station Director.

Cool weather has prevailed during the week, the temperature ranging from 6° to 8° below normal in the Sacramento and San Joaquin valleys, while in southern California and along the coast it has been normal or slightly below. Unusual and quite heavy thunderstorms, accompanied by vivid lightning and in some places by heavy showors of rain, occurred on the 3rd in the central and northern portion of the State; so far as reported, very little damage was done to crops, except in retarding the work of harvesting and threshing. Fruit was not injured materially, as timely warning had been given, and precautions were taken to protect drying fruit on trays. Light showers also occurred in the south. Wheat, barley and oats are nearly all harvested and threshing is in progress; the yield and quality are entirely satisfactory. Deciduous fruits are being gathered in large quantities and sent to the canneries and driers. Citrus fruits and walnuts are doing well. Corn, potatoes, beans and garden vegetables were benefited by the favorable conditions. Irrigating water is becoming scarce in portions of southern California.

Sacramento Valley.

Grapes and deciduous fruits were greatly benefited by cool weather and rain. Fruit on trays was cared for through timely warnings. Peaches and apples are being shipped in large quantities. The apple crop will be light, owing to late spring frosts. Oranges and olives are doing well. The rainfall of the 3rd and 4th, amounting to 0.25 inch in some sections, delayed harvesting somewhat, but did not materially damage crops. The yield of barley is said to be the heaviest in a number of years.

Coast and Bay Sections.

Grapes are thrifty, and are free from mildew and insect pests. Crawford peaches are ripening rapidly and are being sent to canneries and market in large quantities. In some places considerable damage is being done to tomatoes, melons and pumpkins by bacterial disease. Harvesting is nearly completed and threshing progressing. Wheat and barley are yielding large crops and the quality is excellent. No damage resulted from rain on the 4th. Corn, potatoes, beans and garden vegetables were benefited by cool weather and rain. Hops are doing well.

San Joaquin Valley.

Grapes are maturing somewhat slowly, owing to cool weather. There will be a good average crop. Watermelons and berries are very plentiful. Peaches, nectarines and prunes are yielding large crops. The raisin crop will not be up to the average. The grain crop is nearly all secured and is being largely stored in warehouses. In the northern part of the valley a thunderstorm occurred on the 3rd, with rainfall amounting to 0.50 inch in some places, but crops were not damaged to any extent. Corn, potatoes and pumpkins were benefited by favorable weather and are doing well. Pasturage is becoming scarce in places.

Southern California.

The temperature has been too low for the ripening of melons, but favorable for fruit and vegetables. There was a light shower on the 3rd, which benefited fruit trees. Deciduous fruits are being gathered: the crop is fully up to expectations. There was a very good yield of apricots in Ventura county. Irrigating streams are very low. Walnuts are looking well, and there will probably be a good crop. Beets are a failure in Los Angeles county.

Los Angeles Summary.—The week was cool and cloudy with thunder storms and rain the earlier part in the mountains, from the Sierra Madre range to the Mexican border, and occasional showers in the valleys and along the coast. In instances streams were increased, while the cool cloudy weather prevented rapid evaporation of water, which conserved the supply for irrigating, besides being beneficial to growing crops. Sugar beets are ripening and work will begin in a few days at the factories; peaches are ripe, though drying has not yet generally begun. Oranges are in good condition; almond picking has commenced and nuts are well filled.—G. E. Franklin.

Eureka Summary.—Hay harvest nearly completed. Cutting of wheat and barley continues. Fruit will ripen earlier than usual. Apples are of good quality, but about 30% below average. Vegetables are growing finely.

The following data for the week ending 5 A. M. Wednesday, August 19, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average seasonal Rainfall to Date	Minimum Temperature for the Week	Maximum Temperature for the Week
Eureka	.00	.00	T	.12	48	62
Red Bluff	T	T	.00	.04	60	96
Sacramento	.02	.02	.00	T	54	86
San Francisco	T	T	T	.04	52	66
Fresno	.00	.00	.00	T	56	100
Independence	.06	.06	.01	.02	56	90
San Luis Obispo	.00	.00	.00	.01	48	78
Los Angeles	.01	.01	.07	.04	56	80
San Diego	T	T	.00	.01	60	96
Yuma	.00	.06	00	.26	70	102

A Case of Tuberculosis.

To the Editor:—I have just bought a fine black Jersey cow, six years old, and have always known her. I notice when she goes up hill she seems to be weak in back and goes very slow with an effort. If driving her she drops on her knees and sometimes will lie down, rest five or ten minutes and get up and go for awhile. She has a deep cough and will hold her mouth open, with tongue protruding, for as much as five minutes at a time, perhaps coughing and repeat it, or may be over it for that time. She always coughs first. What is the matter with her? Subscriber.

Butte County.

Answer by Dr. Creely.

This is apparently a plain case of consumption or bovine tuberculosis. Test with tuberculin.

510 Golden Gate Ave., S. F. E. J. Creely.

FRUIT PRESERVATION.

The Prune in Oregon.

By CHAS. L. DAILEY at the meeting of the Oregon State Horticultural Society at Salem.

There are few industries in this country but what have gradually grown to their present proportions from small beginnings, many of them having been old-established lines of trade in Europe long years before America took them as a home production. Prominent among these occupations none have accomplished a firmer foothold or more rapid growth in the United States than the production of prunes, which from small beginnings at a comparatively recent date have grown to one of the large and staple industries of the present day. That this occupation has come to stay goes without saying. But should any doubts be entertained one will only need to examine the records of annual consumption, the national demand for the article and the fact that practically none are now imported, very nearly the entire product being produced here.

What is a Prune?—A prune is nothing more nor less than a dried plum, but all dried plums are not, strictly speaking, prunes. The plum which makes an acceptable prune of high grade must possess the quality or conditions which enable it to be cured without ferment, leaving it in a finished condition—sweet, sugary, mellow, palatable and with good keeping qualities. These conditions few plums possess, so that in general prunes are referred to as a distinct variety of fruit belonging to the plum family. The prune can be grown in a more or less successful way in nearly all parts of the United States, but in some sections it does not fruit well. In others insect pests which cannot be eradicated make it unprofitable, so that at the present time New Mexico, Arizona, California, Oregon, Washington and Idaho produce practically all the available article of commerce, California taking the lead in point of quantity and Oregon an easy second place. Much rivalry has existed between these various sections of country as to their merits in the production of the prune and other fruits, so that a stranger traveling from one to the other would find each claiming all that was good and allowing but little, if any, credit to the others—much the same as half a dozen merchants in the same town, all buying the same goods from the same wholesale dealer, each claiming his goods only were worthy either in price or quality.

It is probable that history will repeat itself in this case as in many others, and that time will demonstrate that certain valleys and locations of country are best adapted to the prune, others to the apple, orange or peach, and that section so favored in an all-around manner, everything considered, will in time receive its undisputed and just reputation the same as it has in the older countries of Europe. It is not the object of this article to compare or discuss the relative merits of the various prune-growing sections of the West, but rather to refer to the prune as it grows in Oregon. Time and the inevitable laws of trade will settle the former, no matter what the individual or section may think.

Oregon for Fruit.—Early in the history of Oregon it was discovered by the immigrants from Eastern States that the climate here was wonderfully adapted to fruit growth. Wild berries seemed as natural and as much at home in the open fields as the grass which everywhere grew in luxurious profusion, and as the years passed by and brought with them the improvements of civilization, it was found that, of all the fruits, none were more perfectly adapted to the climate and soil conditions than the plum, its yearly yield of delightfully luscious fruit being nearly as sure as the seasons. Gradually the successful culture of the prune and the large monetary returns received therefor brought this fruit prominently before an enterprising public, and to-day we find an acreage of prune orchards in Oregon equaled in extent only by our neighboring State of California.

Oregon Prune Unlike Californian.—The prune as grown in Oregon differs materially from the production of several other prune-producing sections in several prominent features. We do not irrigate our orchards, there being ample rainfall to stimulate and grow all vegetation in a natural, healthy way, and this without the eternal downpour that is sometimes supposed to occur. This insures a plump, meaty, sugary fruit, of largest size, at the lowest cost of labor. We grow varieties not generally found elsewhere, unless it be in Washington, and therefore new and unlike the old and familiar brands of commerce. We cure our fruit entirely by the evaporation process of passing hot air artificially heated through the fruit, thus insuring a clean and bright product unobtainable by any other means.

In growing an orchard of prune trees the present generation has many advantages over those of the past. Many theories have been found wrong, and much needless expense of the past can be avoided. The general principles governing the growth of orchards in Oregon are few, but must be observed with strict fidelity, the neglect of any one being fatal to highest success.

He who wishes to succeed in the highest degree of growing prunes cannot take too much pains to see that his start is right. Select trees of careful, responsible nurserymen, or grow them yourself, then transplant them with care, preserving the full root system as much as is possible to do. See that your soil is well prepared, mellow and dry, and you have started on a foundation that will stand, and on which you can rely. The first year's care of an orchard is of more importance than those that follow. As a tree grows the first season, so it will grow after that, and I think it economy of time and labor to root out at the end of the first season all those trees which have not shown a hardy and thrifty growth, replacing them with new stock. Every prune orchard in Oregon should be annually pruned and cultivated, not in an excessive manner, but after the way of moderation. In this damp, moist climate, with late spring rains, a constant use of the plow and harrow is not needed, nor would I go to the other extreme and allow grass and weeds to grow. Moderate treatment is best. These few points receiving careful attention, the natural, climatic and soil conditions will do the rest, and any person obeying them can succeed with the prune in Oregon at comparatively small expense.

Varieties.—The varieties of prunes grown here are generally referred to as three—Italian, Petite and Silver—which for all practical purposes is correct, though we have several others which are grown in a small way and possess much merit. The Italian variety is far in the lead as to acreage, and stands alone in the markets as the Oregon prune. So different is this prune from those of California that it would be a dull person indeed who would mistake one for the other.

The Italian is a large, black fruit, with an aromatic sub-acid flavor, while the French prune of California is a smaller, lighter colored fruit, and very sweet to the taste. It is sometimes amusing to hear people talk of California filling her orders with our larger Italian prunes, or buying them of us to face their boxes. The two fruits could not go together, and could not be used in that way.

The French or Petite variety of prune grown by us is the same as the Santa Clara prune of California, but in our process of curing the fruit by evaporation it very much changes the general appearance of the finished product from that of California, which is dried in the sun, and it is not probable that any Eastern buyer, well up in his business, would mistake one for the other, even in this variety. For these reasons Oregon prunes are classed by themselves in the markets, and must stand or fall on their merits.

The Silver prune, as grown here, has disappointed us in many ways. It is a beautiful fruit when well handled, but the extreme tenderness of the tree and extra care necessary to cure the fruit make it an undesirable addition to our orchards.

Curing.—The curing process employed by the prune growers of Oregon is perhaps as great an agent as any other in imparting to our prune its distinctive features. In as few words as possible, the process consists in circulating heated air through the fruit and carrying off the moisture thus absorbed until the water is all extracted and the prune left perfectly cured. This process is accomplished in so short a time that fermentation is avoided and the whole tendency is to leave it clean, bright and meaty, somewhat more solid than sun-cured, but more fruity and rich in flavor, having much the same taste when cooked as the fresh article.

We can, I think, cure our prunes in evaporators about, if not quite, as cheaply as in the sun, and do it better. Transportation facilities are in our favor; we have four great lines of railroad running east to markets from Portland. There are other reasons of minor importance that could be given, and perhaps some objections could be cited on the other side of the question; but taken all in all, I believe Oregon has at least a fair fighting show to be found at home twenty years hence in the industry of growing prunes for market.

FLORIST AND GARDENER.

Midsummer Suggestions.

George N. Tyler, the Alameda florist, has given his readers a rest during July, but he warns them that from now on there will be plenty to write on and plenty to do.

Asters are the next flower coming into bloom; they are forming their buds now, and will have much longer-stemmed and finer flowers if they are fed liquid manure twice a week. They also require abundance of water at the root, but not on the foliage after the flower buds form or the flowers will come deformed.

Amaryllis will soon flower. They throw up flower stalks before any growth appears. They should have abundance of water at the root.

Cosmos will soon be in bloom, and are greatly benefited if given treatment the same as the asters.

Pansies.—You can sow pansy seed any time this month. In sowing get the best strain of seeds that can be procured. The strain I recommend is the Rohmer's Prize Show and Five Blotched. This is acknowledged to be the finest strain of pansies on the market. In sowing the seeds, you will have better results and more plants from a package of seed if you sow them in boxes 3 inches deep. Use finely prepared, light soil, at least one-third pure leaf mould. Firm the soil on top by pressing down with a smooth board or brick. Sow the seed broadcast, and after it is sown press the seeds into the soil with a smooth board or pane of glass, then cover with ¼-inch pure leaf mould or finely chipped moss. Water with a fine spray, so as not to waste the seeds. Put the box in a cool, shady place, free from wind, and water with a fine spray whenever the surface gets dry; but do not water towards night, or a large percentage of the young plants will damp off. After they are well up—that is, showing two leaves besides the seed leaves, they should be given full sun. After they have made four leaves, they should be planted in the beds where they are to bloom, or should be transplanted into similar boxes, using similar soil. Plant them 2 inches apart in the boxes. The more a pansy is transplanted the better it seems to do, if it is done while they are small. I give my pansies three shifts and the extra fine ones four.

Chrysanthemums.—Your chrysanthemums should now be in fine growth. If you have not mulched them with 1 inch of rotted manure, do so at once. They should also all be staked by this time. Green and black aphis are their greatest enemies. Tobacco tea is the best remedy for them. In fact, tobacco in any form will keep them down. I use the nicotine extract, as it is easy to handle and is cheaper in the long run. Tobacco dust is also good. Put a pinch in the heart of each plant and do not spray for a day or two. This should be applied once a week.

Pansies require a rich soil, but use nothing but thoroughly decayed manure—cow manure is best—and plenty of it. Now is the time to prepare your bed or beds. An eastern exposure is best where they have partial shade. The bed should be worked over two or three times after applying the manure.

Bulbs.—If you have not planted your freesias, do so at once. The reason a great many fail with this simple bulb is because they do not get it planted soon enough.

It is time now to get your bulbs for spring flowering, and the sooner the bulbs are planted the better will be the results, for it does not benefit any bulb to remain long out of the ground.

Paper-white narcissus should be planted, and if the old bulbs have remained in the soil, they should be given a thorough watering and watered once in two weeks until rain commences.

Go over your violets and chop off all the runners, or you will not have early flowers.

AGRICULTURAL ENGINEER.

Settle the Dust and Save the Roads.

Much is being done in this line by providing water tanks and sprinklers in several counties. Where water is scarce there is another way to save the roads and keep the dust out of the fruit which is being dried or hauled for shipment, and that is the oil method now being favorably reported upon at the south. Following is the opinion of Supervisor Broughton of Santa Barbara county:

Theoretically, it has been claimed for years that crude petroleum would be found valuable as a preservative of roads, but not until recently have the tests borne out the theory. In several of the counties of southern California the application of crude petroleum has for two years been made to county roads with variable results, yet all claim it preferable to water as a preservative, the chief objection being the first cost of its application.

The Method.—Like everything else, the best method of applying it had to be found out by experiment. The first applications or tests were made with cold petroleum, and while the roads were improved, the results were far from satisfactory. It was then applied hot and immediately penetrated the dust and harder soil, giving to the roadbed solidity, by packing, that water does not produce. Water when applied profusely makes mud, and causes inconvenience by casting off particles when vehicles are driven over them with speed. With petroleum it is different. No kind of application as to quantity places the soil in a condition to be taken up by the wheels to be cast off. The oil increases the density and weight of the dust until it resists the winds and refuses to rise, being thus a perfect preventive of that disagreeable condition prevailing where roads are not macadamized and sprinkled to allay dust.

An examination of the roads oiled by Supervisor Deaderick, by the entire Board at its last session, convinced one and all of its members that the proper way to make and preserve good roads lay in the proper use of crude petroleum. Col. Deaderick has treated something over a mile of the sandiest and ruttiest road in the county with hot petroleum with a common sprinkling wagon, with the result that

after more than three months the road is solid, without ruts and perfectly free from dust, and showing no sign of disappearing either by absorption or evaporation, which makes us conclude that one such treatment per annum will prove ample for all purposes.

Col. Deaderick places the maximum cost of procuring and applying this treatment at not to exceed $60 a mile, but he secures the oil at $1 per barrel at the wells, where it is heated and conveyed to sprinklers. This treatment not only makes perfectly secure roads, but resists the rains and relieves the tendency to muddiness in winter.

Will Oil All the Roads.—So thoroughly convinced are the members of the Board of Supervisors that all roads, where it is possible to secure oil without too great cost of transportation, can be oiled for less money per annum and kept in better repair and condition than by the water-sprinkling process, that all roads hereafter will be so treated. Supervisor Parks of the Third District is now arranging to treat Hollister avenue to and through the Elwood Cooper lands with oil, a distance of twelve miles, and as soon as the railroad along the coast is completed the roads in the Fourth and Fifth Districts will be treated with crude petroleum.

HORTICULTURE.

Chronology of Mr. Burbank's Varieties

So many questions come to us even from readers in distant parts of the world as to what varieties have been sent forth by Luther Burbank of Santa Rosa, and at what date, that we have secured a trustworthy chronological statement which can be preserved for reference. Mr. Burbank, though busy as usual, recognized our appeal for such facts as warranted and aided us with all his data. The following may therefore be regarded as authentic as to the public phases of Mr. Burbank's work:

1874—The Burbank potato was raised from seed of Early Rose and introduced by J. J. H. Gregory of Marblehead, Mass.

1887—Introduced to the general trade "Botan," "Chabot," "Long Fruit," "Masu," "Botan No. 2" (all imported varieties).

1888—Introduced "Burbank," "Satsuma" and ten other varieties under *numbers* as received from his collector in Japan, who was sent to southern Japan to obtain "Satsuma," of which Mr. Burbank had read a description by a Japanese traveler. The "Burbank" (so named by Prof. H. E. Vandeman), the "Satsuma" and the ten other varieties now well known came from this trip to the south of Japan. P. J. Berckmans of Augusta, Ga., president of the American Pomological Society, secured buds of the whole lot and some of them have been named as follows: "Berckmans," "Blood" (4), "Hunn" (1), "Maru," "Willard," etc. "Burbank" and "Satsuma" were introduced to the general trade by Mr. Burbank in 1888.

1893—After this Mr. Burbank began to raise seedlings and crossbred seedlings and introduced no more plums until 1893, when he put out the first of his catalogues called "New Creations in Fruits and Flowers," introducing that season "Giant," a shipping prune, and another which was purchased by Stark Bros.' Wholesale Nurseries, Louisana, Mo., who named and introduced it as "Splendor." "Gold," an American X Japanese hybrid plum was also purchased by the same firm and named and introduced as "Golden." "Delaware," a dwarf, very productive Japan plum of most exquisite quality; "Shipper," a large, apple-shaped Japan plum; and "Juicy," an American X Japan hybrid, plums were sold to John Lewis Childs of Floral Park, New York.

The same year Mr. Burbank introduced his hybrid walnuts "Royal" and "Paradox," and the new quince purchased by John Lewis Childs and since sent out as the "Childs." The "Hale" plum was purchased by J. H. Hale of South Glastonbury, Conn., and introduced by him in 1895. The "Vandeman" quince was purchased and introduced by the Stark Bros. Co.

1895—"Wickson" and "Giant" plums were offered in 1893, but were introduced to the general trade by Mr. Burbank two years later (1894–95).

1898—No more introductions were made until 1898, when he put out the following named new fruits: "Apple," "America," "Chalco" plums and new prune "Pearl."

1899—Came "Climax," "Sultan," "Bartlett" and "Shiro" (hybrids), and "Sugar" prune, a seedling of the common French prune raised in 1894; the "Pineapple" quince, raised from seed of the "Rea's Mammoth" in 1889. "October Purple" was purchased by Hoyt's Sons, New Canaan, Conn., who introduced it to the general trade in 1898.

Ornamentals.—During the time which has elapsed since 1876 Mr. Burbank has, besides the fruits and nuts above mentioned, introduced five new roses, three cannas, numerous gladiolus, lilies, tigridias, myrtles, callas, berries, and trees, fruits and flowers too numerous to mention.

Chestnuts.—The three new Japan seedling chestnuts, which were the prizes obtained from many thousand seedlings of the Japan Mammoth, were purchased by Hon. Geo. A. Coe of Meriden, Conn. On the death of Judge Coe they were secured by J. H. Hale, who introduced them in 1897–98 under the names of "Coe," "McFarland" and "Hale." "Coe" is large and extremely sweet; "McFarland" is medium to large, extremely productive and ripens about two weeks before other chestnuts. "Hale" is the most precocious of all nut trees, generally bearing fruit the first season of grafting, and always the second; nuts of medium size, fine quality, produced in the greatest profusion.

CEREAL CROPS.

Does Wheat Pay at One Cent a Pound?

This is a live question in the cereal districts and all interested will be glad to have views upon it. The writers of the Stockton *Mail* have gathered such views from different people and the reports make lively and seasonable reading.

Does Not Pay.—Had the market remained at the high figure of last fall this season's grain crop would have been a bonanza to San Joaquin county. The fall to 1 cent a pound lessens the profits materially, but a great many farmers propose to hold their grain for better prices.

"Does it pay to raise wheat for 1 cent a pound?" was the question put by a *Mail* reporter to a number of farmers from various parts of the county during the last few days.

Nearly every one at first replied that it did not, but subsequent inquiry developed the fact that each was putting emphasis upon the word "pay," and after thorough discussion of the subject the conclusion was almost invariably reached that if a farmer had money enough ahead to carry him over the bad years he could raise enough grain on a San Joaquin county farm of average size to support himself and family in fair comfort, even if the price of grain did not average more than 1 cent a pound.

How it Can be Done.—"But let me tell you this," remarked one farmer, confidentially, as he leaned over the side of his wagon, "the money in ranching isn't in the grain you sell, but in what you feed and the pasture and general picking you get. Maybe your grain'll pay the expenses of the ranch, but the pigs and chickens and cattle you turn off is where the money comes in. And if a fellow is careful about little things that are generally counted as waste he'll get along, even with wheat at 1 cent; but if he's careless and don't try to get anything but what he takes to the warehouse, he'll bust sooner or later, sure."

Wants to Figure on It.—Meditating on these words the reporter passed on and soon met a prominent farmer, who said in response to the inquiry: "Well, now, let's figure a little from the standpoint of the land owner. Suppose I have just returned from the Klondike with $10,000. Not wishing to encounter the cold of the north again I decide to invest in land, and find that I can get good land convenient to my home in Stockton for $50 an acre. I purchase 200 acres and, as I have no money now to run it, I rent it to a man who agrees to give me one-third of the crop, delivered in the warehouse. If he winter sows it a fair yield would be from seven to nine sacks to the acre, taking one year with another. If the sacks weigh 140 pounds each and grain is 1 cent a pound, my share of the crop will be from $650 to $850, which, after I have paid my taxes and the cost of repairs on windmill, fences, etc., will not leave me a very handsome return on the money invested. Then, supposing that I do not wish to wear out my land, and I make the renter agree to summer-fallow, I may get from twelve to fourteen sacks to the acre; but as only half the ranch can be put in each year, I find my share of the returns to be from $560 to $660. I think I could loan my money on gilt-edged security and have a steady income that would beat that. And, judging from human nature in general, do you think that the owner would be content with such returns, if the renter was getting rich?"

The reporter hardly thought he would, but suggested that the gentleman had omitted to count any share of the pasturage or hay.

"That doesn't amount to much, ordinarily," said the farmer. "It may balance the cost of repairs on the place, but it is an uncertain quantity."

Farm Your Own Land.—"I wouldn't let a place," said Robert Boyce, who owns considerable land near Woodbridge. "The renter must make something for risking the chance of a poor year, and I believe a man will make more by hiring help and managing his own land, if he is so situated that he can do it."

The Reporter Makes Some Figures.—Thereupon the reporter went to work to find out what the cost of producing a crop wuold be. The estimates varied from $4 to $6 an acre for winter sowing, according to the weather during the seeding time, the kind of land plowed, the distance from the warehouse and the number of sacks required. Putting the results of his inquiries into tabulated form, they would be as follows, the first column showing the minimum expense of producing a crop on an acre and putting it in the warehouse, and the second column showing the maximum expense:

Items.	*Minimum.*	*Maximum.*
Plowing, etc.	$ 75	$1 50
Blacksmithing	30	40
Seed	75	90
Harvesting	1 25	1 60
Sacks	40	60
Hauling	55	1 00
Totals	$4 00	$6 00

No account is made here of insurance, as not all farmers insure, and there may be some other small items omitted, but they would be covered by the small sources of income that are equally hard to calculate. The cost of sowing is included in the plowing. Counting the same yield as before, the returns would be from $9.80 to $12.60 an acre, leaving a profit of perhaps $6 an acre, out of which repairs, taxes, etc., would have to be paid. Summer-fallowing would increase the total cost to from $7 to $10 an acre, and the returns would vary from $16 to $20; but since two years would be required to raise a crop, the annual profit would average about $4.75.

"I would never rent a place," said Charles Stratton, who lives ten miles north of Stockton, with a different meaning than Mr. Boyce had intended. "A man can make more working with his team, if he has head enough to conduct a ranch successfully, and he don't have to risk a failure of crops. There's mighty little to be made by renting, unless you have extra good luck."

A Renter's Views.—"You've got the figures there; figure it out for yourself," said a renter. "Only remember in figuring you ought to add about a fourth to your totals to cover what you have left out. Suppose you are lucky and get an average return of $12 an acre. Take out $4 for the owner and say $5 for expenses, and you have $3 an acre for yourself. So if you farm 160 acres and sow it every year you get $480 as wages for yourself as manager and for the work of your wife, who has to work as hard as you do. Of course, on a ranch a fellow can live on that if he has to, but he won't buy any pianos or send many children to college with wheat at 1 cent a pound."

THE IRRIGATOR.

Irrigation of Grain.

Professor S. M. Emery, director of the Montana Experiment Station, was a visitor to California during the convention of agricultural scientists last month. The Montana station is located at Boseman, in the Gallatin valley, which is entirely dependent on irrigation for crops, and the views of Director Emery, as secured by a writer for the *Chronicle*, are interesting:

Irrigation means much more than the actual application of water to soil. This may be said to be the secondary part of the proposition; the most important part of irrigation being the provision of water. Ignorance of the natural supply forbids reference to that feature of the subject, but an investigation of conditions at Fresno prompts a liberty which may be excused by the interest which I take in the subject.

Drainage.—Irrigation all depends upon not only the expeditious application of water to the soil, but its expeditious removal, once its purpose is attained. In the irrigated field, scientifically fitted for the reception of water, there must be no standing pools of water after the process has been performed. This is expensive, and means loss of the crop on which the water stands, or, if the loss be not total, the yield will be so diminished and the ripening process so delayed that the ultimate value of the crop is seriously affected by reason of the irregular ripening.

The man who handles the water, and who fits the surface of the land to be irrigated, should so perform his labors that no sooner has the soil been saturated to the desired depth than the water will at once flow off the irrigated section to the lower lying levels.

Grading.—This can only be accomplished by the mechanical preparation of the surface. How can this be best accomplished? Without ability to determine on a most casual examination of the matter much of the country about Fresno has an appearance such as would obtain on the surface, for example, of Lake Michigan were it to be congealed while it was being violently agitated by a strong wind. A series of sharp swells would thus be created in the ice, with which it would be covered. The local cognomen for this condition is "hog wallows," and this is extremely apropos. On the the great upper plains of this country this unevenness is crudely described as "buffalo wallows," the conditions being much the same. The man who knows his business will never attempt to farm such an area under irrigation. Life is too short. He will rather attempt to reduce the general surface of the soil to a uniform plane, so that the water will find its way over all the surface quickly. There are ways and ways of moving earth. The road scraper is but a remove from the shovel of the railway contractor; many so-called grading machines are only such in name, requiring, as they do,

the service of the engineer to give grade-stake locations. The difficulty with all such machinery is that the cutting blade is too short and the wheels too close together on which the implement is swung. This may seem to be a weak objection, but it is founded on fact easy of demonstration.

How They Grade Land in Montana.—The grading machine should be of sufficient breadth as to act automatically, as it were, so that the crowns of knolls can be scalped and the fullness thereof carried to the intervening potholes and there dumped. Such a breadth is about 12 feet. An extremely popular grader in Gallatin county, Mont. (probably the most fertile grain valley in the world), has such a width and is made of ⅛-inch steel of same length, 6 inches wide, attached to a timber 2 by 8 inches by 12 feet. This timber may be of pine or redwood. It is hung at right angles to the surface to be graded, inclining a little forward, if anything. It is suspended in a framework of 4 by 4-inch timbers, and this in turn on three iron wheels 16 inches in diameter, a wheel being at each forward corner and one at the rear, the rear wheel being so hung as to swing to right or left and thus turning easily in directing the progress of the machine. The grader has a seat for the driver, is drawn by four horses and the cutting blade is hung by springs and a lever, so that the driver can raise or lower at will. Briefly summarized, this leveler, or grader, should be operated on lands plowed preferably to a depth of 12 inches, by a disc plow with a subsoil attachment. The driver, from his elevated seat, will notice a high spot in his course, the lever is run by foot power and is forced downward, the blade engages with the surface of the high knoll or ridge, cuts it off until the blade is full of soil. This is carried forward until a lower level is reached when it is automatically dumped, simply by sliding out from under the blade when the support of the high knolls or ridges is missing. It is not advisable to cut a field down to a uniform grade at once. It is best to use one or two years to accomplish the desired end, and thus avoid paring too much of a field to the quick and leaving exposed too large areas from which the aereated plant-food supplied soil is lacking. With such a leveler twenty-five acres may be traversed in a day, with smart moving horses and an energetic, pushing driver.

The beauty of this grader is that it speaks for itself, and when the field is once passed over, it is readily seen where the soil needs shifting. Following this grader should come a heavy roller to compact the soil in the filled depressions, else the soil will be too loose for the young and growing grain.

Once a farmer who practices irrigation is familiar with the result of such work, he will not be content until his entire field is brought to a uniform plane. It will be a saving in the application of water and in the added uniform yields, which can only be achieved by such preparation. Time does not permit to refer to other labor-saving implements in irrigation work, peculiar only to the Gallatin valley and which are also great labor savers and worth many times their cost.

FORESTRY.

The Convention of the American Forestry Association.

The recent convention of the American Forestry Association at Los Angeles, as has already been noted in our columns, was a very interesting occasion and largely attended by forestry expects and a advocates. In the absence of Secretary Wilson, Abbot Kinney, vice-president for California, presided and made the introductory address. He emphasized the importance of realization on the part of the public of what depended on the protection of the forests, and welcomed the delegates to what he termed the "hot bed" of forestry—southern California. In this region the enforcement of the principles of forestry was a matter of life or death to the people; if the watersheds are not protected, and their verdure sustained and kept from conflagration, the water sources will inevitably fail, and ruin result. It is simply a question of expansion. Here at our touch is an empire of land which needs simply irrigation to make it produce enough to supply the wants of millions and capable of sustaining hundreds of thousands of settlers. All that is needed to develop what is called the arid regoin is sustaining the arms of the National Irrigation Association, the saving and utilizing of natural reservoir sites and the construction of artificial water basins.

Need of Action.—Hon. Walter S. Melick of Pasadena was then introduced and read a short, vigorous address in which he warned the association that it must shake off its languor and carelessness and go forth to protect forests and propagate trees before it was too late. It should at once formulate a system and awaken the people to their interests. The question of the value of forests and their effect on the water supply was no longer a matter for argument; all this was conceded, as well as the fact that it is the duty of man and government to prevent the waste of wood and consequent danger to water supply. The timber culture act of 1875 was a step forward, but it has proved ineffectual. He doubted that a hundred acres of trees had been planted in consequence of its provisoins in the whole State. He showed that the State laws were virtually inoperative, and deplored the fact that the forestry stations were utterly dependent on what aid the State University could give them, though the work was most important to the community. The State laws regarding fires were lamentably deficient.

Suggestions.—Mr. Melick offered the following recommendations for the consideration of the assembly:

That the National Government be given every opportunity and encouragement possible to protect the forests on the reserves. That protection be supplemented with a system of propagation. That the State revise its laws pertaining to forest fires, and the penalty for starting them.

That the experiment station work be broadened from mere existence to a field of usefulness that would discover, propagate and distribute the trees best adapted to the various mountains.

That constant appeals be made to the people to plant trees and then plant more trees, and take care of them.

Forest Regulation.—Gifford Pinchot, the Federal forester, then gave a most entertaining talk on the government forest reserves, illustrated by dissolving views. He described the opposition that had been met with in the creation of these reserves, and showed how it had been overcome when the people began to understand what they really meant. Now in New York the State had appropriated $1,500,000 to use in protecting the watershed of the Adirondack mountains, and the forestry bureau had been working for some time in direct harmony with the lumbermen of that region. These timbermen had accepted a plan of work devised by the department, and the result was that they found themselves greatly benefited. Experts from the department marked the trees to be cut and supervised the work at no additional cost to the lumbermen, and with a most satisfactory systematizing of the industry, and saving of trees that would otherwise have been wasted. Besides being ready to do this work the department is able now to send men free of cost to tree planters, where they have five acres or less; in cases where a larger area is to be covered a nominal charge is made. In the Bitter Root reserve, as in others, the damage is done by fires and by sheep. The latter do not cause much harm from what they eat, but their sharp hoofs destroy the conifers, and the result is that the young growth fails to appear.

J. B. Lippincott of the Federal geological survey followed with more views of the Bitter Root reserve, and gave a bright account of his travels through that heretofore unknown region.

Irrigation and Forestry.—Elwood Mead, the irrigation expert of the Department of Agriculture, discussed "The Future Policy of Irrigation in the West." The speaker discussed particularly the leasing of public lands for grazing purposes, which he favored, advocating that the proceeds be used for the pupose of developing water in the West. Ninety per cent of the arid lands of the country, Mr. Mead continued, were unfit for anything but grazing, and are used for that purpose without the payment of any revenue to the government. In some of the stock-growing States only half the cattle which were grazing ten years go now exist. A lease of government lands would have averted this decrease and given several of the Western States large sums added to the public revenues. Such a system would enable the States affected to construct irrigation work, enterprises which private capital is not at all times able to carry to a conclusion. The State can do what the individual cannot afford.

Forest Conservation.—W. W. Everett of San Francisco spoke from the lumberman's point of view and said that a thorough canvass of the owners of the large lumber tracts in California disclosed the fact that all are in favor of a wise supervision of the forests of the State and the coast, but object to theories which they insist are usually not practical. He quoted from statistics to prove that there is enough uncut timber in several of the counties of California to last, with the present mill cutting capacities, for over 250 years, and insisted that what is needed is a system of practical forestry education, civil service rules and not a pull to govern appointments as forestry guardians. The Bohemian policy of reforestization is favored by the lumbermen of California, which policy compels all trees as so on as cut down, to be at once replanted, from saplings close at hand.

The Sequoias.—W. R. Dudley, professor of botany in Stanford University, spoke at length on "The Sequoia of the Sierra and Their Distribution." He said in part:

The Sequoias represent a type of tree found nowhere else. Were it not for the high mountains of California there would be no forest except in the fog belt along the northern coast; consequently there would be no summer flow in the rivers and the State would be largely a desert, instead of being possessed of great fertility. The Pacific coast, on account of its variety of climate, is the home of a large number of conifers that are extremely rare in other parts of the country. These forests deserve protection and particular care on account of the rare types, of interest to science, which they contain, aside from all questions of commercial utility.

The needles of the conifer play an important part in keeping the forest floor in a condition where it can absorb the excess of water, and are the best possible guard that the soil of the mountains could possess.

After describing the different species of the Sequoia and the difficulties attendant upon reaching its habitat in the mountains, the speaker concluded: The country which is at once the home of the palm and the pine, with rich soil and warm plains, surrounded by mountains topped with conifers and bordered by a sea that should cause an ample precipitation is it not the region of all others in the United States that should demand an early application of the principles of forest management?"

Reservoirs and Forests.—Jas. D. Schuyler, consulting hydraulic engineer, spoke on "Storage Reservoirs as Affected by Forests." In an arid region where there are intermittent streams, storage reservoirs are essential, and proper sites for them are correspondingly scarce. The natural erosion in southern California by the torrential streams is considerable, and tends to fill up the natural storage reservoirs. Where the forest soil is bound with a network of roots, the rain passes off slowly and the maximum of water with the minimum of detritus is obtained. Under such conditions storage reservoirs are mainly useful for saving the winter excess for summer use. Persistent effort should be directed toward the bridling of torrents and the conversion of every mountain canyon into a natural storage reservoir.

F. H. Olmsted, City Engineer, exhibited a large map of the country surrounding the source of the Los Angeles river, and spoke entertainingly on "Forest Preservation and the Watershed of the Los Angeles River."

Forests and Irrigation.—F. H. Newell, Hydrographer of the United States Geological Survey, gave an illustrated lecture, showing the conditions of our forests, and replete with views explanatory of dams and irrigation works. His address was in substance as follows:

The most important problem that can come to any body of public men, commercial or otherwise, in the West, is that of the increased utilization and development of the vacant lands, both in public and private ownership.

While it has been demonstrated that irrigation investments on a large scale do not return a fair interest to the persons who furnish the money, yet, on the other hand, there is no doubt that, taking the community as a whole, the benefits are far beyond the first cost; but, unfortunately, these benefits do not redound to the advantage of the men who have furnished the capital and have taken all the risk and trouble in managing a large enterprise. Millions of dollars could be had for the construction of irrigation works if it could be demonstrated to impartial and critical experts that similar investments were now returning a fair interest on the original capital employed.

The utilization of the vacant lands now comprising a third of the whole United States, and the consequent increase of population and of all industries, is to a large extent dependent upon securing more water. It is not possible, taking the years as a whole, to secure a greater amount than now exists, but it is possible to supply many fold by saving that which now goes to waste. In order to increase the available supply two methods are especially prominent. The first is that of storage of the floods or winter waters, and the second is by pumping water from underground or from streams from which it cannot be taken by gravity. Pumping is essentially the problem for the great plains region, and to a less extent for many parts of the West. It is particularly important in portions of California where the conditions are such that water storage cannot be had.

The importance of water storage has been recognized by the Congress of the United States, but the efforts of Senator Warren of Wyoming and other Western Senators have not been as strongly sustained as is necessary for ultimate success. They must be continually and strongly backed by the great commercial and transportation bodies of the country, as well as by the people at large. If the localities are wisely selected and the structures are economically built, there is no doubt but that storage works will return directly and indirectly their cost and ultimately a reasonable percentage on the investment. It is waste of time to talk about private capital constructing these great works, and less than useless to argue that the capitalist ought to be willing to take the risk of building great storage works with the possibility of receiving his money back again, if successful, after the lapse of many years.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

HOP PICKING.—Oakland *Enquirer*, Aug. 4: The hop picking season at Pleasanton began August 1st. The Pleasanton Hop Company announces that they will pay 85 cents for picking 100 pounds instead of 80 cents as they have done.

POULTRY SHOW.—*Enquirer*, Aug. 4: The next exhibition of the Oakland Poultry Association will be held December 6th to 9th and from present indications will be the largest and best ever held in the State. Birds and pet stock from all over the State, as well as from Oregon and Washington, will be exhibited.

HARVESTING REPORTS.—Haywards *Journal*, Aug. 5: The threshing returns show that the grain is turning out much heavier than first expected. This is especially so with chevalier. On the Penke farm 3200 sacks were secured, the average per acre being 26 sacks. On the Winton 50-acre tract 1500 sacks of common barley were realized. On the Meek ranch the grain so far threshed has turned out exceptionally well. The common barley in one field averaged over 30 sacks to the acre.

GRAIN CROP.—Niles *Herald*: Harvesting is well advanced in this township and the yield of all kinds of grain has been large. Wheat has gone as high as 40 centals to the acre and it is believed that 25 centals will be a good average. The estimated yield is 20,000 tons of grain, divided among the warehouses as follows: Centreville, 3000; Decoto, 6000; Irvington, 4000, and the landings 7000 tons.

Butte.

BIG WHEAT YIELD.—Chico *Record*: A large majority of the grain farmers are adorned with smiles, for in nearly every locality between Marysville and Red Bluff the yield is all that could be expected under most favorable conditions. On the adobe lands in southern Butte many hundreds of acres are yielding from 15 to 20 sacks of wheat per acre, notwithstanding the past conclusions of some that much of the land has been overfarmed.

Colusa.

CREAMERY SOLD.—Chico *Enterprise*: Rev. M. Wallrath has purchased the plant of the Colusa Creamery Company. The machinery will be thoroughly overhauled and placed in first-class condition. The building contains a 10 H. P. boiler, a 6 H. P. engine and a separator with a capacity of 1200 to 2000 pounds per hour. It has not been definitely settled when the creamery will be started.

Contra Costa.

PEARS FOR EXPORT.—Walnut Creek, July 31: The first shipment of Bartlett pears from this section was a 3-carload lot from the Bancroft ranch. One of the carloads was sent direct to New York, and from there will be shipped to London. The fruit was very choice, and was packed in half boxes of 20 pounds each.

Fresno.

RAISIN DRYER BURNED.—Fresno, August 4: The raisin dryer on the ranch of Alexander Gordon, containing about 3000 raisin trays, was destroyed by fire this morning. The loss will be about $1000, with no insurance.

HELP SCARCE.—*Democrat*: Everyone is looking for help of some kind. Supervisor Burleigh has been looking for men to help cut hay, and now he has decided to turn his sheep on the alfalfa and not try to cut it at all. He said that for years there has been no such scarcity of help. Meantime the fruit growers are becoming worried. The crop of peaches is so immense that great dispatch must be exercised in handling it. The old price of 12½ cents for cutting a 50-pound box has given way to 15 cents for a 35-pound box, and still the supply of help is inadequate.

Los Angeles.

CITRUS ASSOCIATION INCORPORATED.—Covina *Argus*: The Irwindale Citrus Association has filed articles of incorporation. The capital stock is $4000, of which $785 is subscribed. The directors are: M. Rebham, H. D. Briggs, H. R. Seat, D. C. Mensing, E. R. Coffman, L. D. Woodworth Jr., W. L. Kellar.

BUYING WATER.—Covina *Argus*, July 29: The Covina Irrigating Co. has purchased for the season the water from the A. Jackson well. The company agrees to pay Mr. Jackson 3½ cents an hour per inch and to lay a flume to connect the well with the company's pipe line. The well pumps in the neighborhood of 7 inches.

Placer.

FRUIT CROP.—Newcastle *News*, Aug. 2: Growers say that the fruit crop, taking it altogether, will be considerably shorter than last year. The districts that were barren of fruit during 1898 have for the most part recovered from the severe drought and will likely yield a fair crop. Hale's Early and Alexander peaches were a good crop. Cherries and apricots were light, as were also the various varieties of plums. Early Crawfords, Fosters, Susquehannas and midsummer varieties of peaches were light. Salways are said to be lighter than usual, but this will be made up for by the larger size of the fruit, making probably nearly as many boxes as usual. Grapes look well and a good yield is expected. Pears will be light, and some growers say they will not get more than half a crop.

San Benito.

CREAMERY BUSINESS.—Hollister *Advance*, Aug. 4: The Hollister Creamery paid to patrons, during July, 80 cents per 100 pounds of milk. The creamery is now manufacturing 275 pounds of butter per day and cannot begin to supply the demand for butter. The cream from the San Juan creamery is now brought over every other day for manufacture into butter, of which about fifty pounds are sold daily.

San Bernardino.

SPLENDID WELL.—Redlands *Citrograph*, July 29: The Redlands Water Co. is rejoicing over their splendid well in Little Reservoir canyon. It is a 10-inch well, 452 feet deep, and has water to within 16 feet of the top. Pumping several days the past week shows a flow of 54 to 75 inches, according to speed at which engine is run, the well furnishing all the pump could raise and seeming to have a good reserve supply.

REGULATING WATER PRICES.—*Citrograph*, July 29: At a joint meeting of directors of the several Redlands water companies, it was agreed that stockholders in the companies should not pay to exceed $2.50 per inch for net water delivered, in addition to the 10 cents per inch pipe toll charged by the Bear Valley Co., and a commission of 5% to the special agent through whom all contracts shall be made, thus making the total maximum cost of the water to the consumer $2.72½ per inch. To enforce these terms, the zanjeros of the several companies are instructed to refuse to receive any outside water from any source whatever, which may hereafter be rented at a price higher than here given.

BEAR VALLEY RESERVOIR DRY.—*Sun*, Aug. 1: Bear Valley reservoir is dry—as near dry as it can get, as far as irrigation goes. The last drop of water that would run over the outlet went out Sunday night, and the level is now lower than since the big reservoir was built, in 1884.

BEET SUGAR CAMPAIGN.—Chino *Champion*, Aug. 4: In an interview with Henry T. Oxnard, he stated that the sugar campaign will commence about August 26, and that means that the harvest on the Chino ranch will begin five or six days earlier. The announcement made last week that there was a probability that there would be no campaign here this year was soon followed by more cheerful news. We understand that the prospects now are that we may have a campaign lasting well toward Christmas. Mr. Oxnard says that the particular attention of the company here will be given to renewal of the soil and the assurance, as far as possible, of certain and good crops in the future years. This will be done first by rotation, or resting the land from beets one year out of three. Then it is believed from experiments which Mr. Hache has been conducting for the company, that green fertilizers can be grown each year of rest, and by plowing it under will add a rich nitrogenous fertilizer, by which the fertility of the soil for beets can be maintained and improved from year to year. This will hereafter be the subject of constant watchfulness and study on the part of the agricultural department of the factory.

EARTHQUAKE INCREASES WATER FLOW.—*Sun*: Lytle creek increased its flow 136 inches in the twenty-four hours ending at 6 o'clock. At that hour Friday night the measurement showed but 252 inches. Last night it was up to 388 inches. This remarkable rise can only be attributed to the series of earthquakes which have absorbed attention for the past thirty-six hours. That such seismic disturbances do affect the flow of springs and wells is generally acknowledged, but its effect on a mountain stream would seem to be more remote unless it reaches the springs which form a part of the sources of the stream. At any rate, the rise during Friday night was very rapid, being up to 350 inches yesterday morning, having increased 100 inches during the night. All day yesterday the stream kept rising, despite the never-failing rule that through the day the streams decrease, and at the measurement last night the creek showed a still greater rise and indicated 388 inches. Not only was Lytle creek affected, but wells in all parts of the valley were influenced by the quakes, some increasing their flow and others decreasing or stopping altogether. In the wells being operated by the Anglo-American Canaigre Co. the flow in the deepest surface well was so increased that, while the pump had been raising 40 inches of water heretofore, the output yesterday was a constant stream of 60 inches. In another well, in which the workmen were still going down, the water doubled and became that much harder to handle. Some of the big artesian wells to the east of the city were entirely cut off. Two wells in the vicinity of the gusher on East Sixth street, which have been dry for months, were flowing after the heavy shock at noon, while some wells in the southwest portion of town, which had been flowing, stopped with the big quake, and have flowed no water since.

San Diego.

FRUIT PROSPECTS.—*Union*, Aug. 3: Notwithstanding the drouth, the El Cajon valley fruit crop, taken as a whole, is a very good one. But the yield of the different kinds varies greatly. The apricot crop, for instance, was even better than usual. The peach crop, on the contrary, is scarcely up to one-half the average. And olives—well, it is an off year for olives, also. Two dry years in succession have injured peach trees pretty badly, hence there was not enough vitality in them this year to even develop many healthy fruit buds. There are some fine peaches, but the birds are so destructive that they hardly suffer the peaches to ripen. In fact, the birds are perfectly ravenous this year, and are proving destructive to all sorts of fruit. The linnets do most of the mischief. The prospect for the raisin crop is quite as good as usual. Good cultivation and careful summer pruning, suckering the vines, etc., have caused the moisture, what little there is, to develop the fruit. But there are some irrigated vineyards from which big crops will be secured. One vineyardist informed our correspondent that he had irrigated eight acres of his 160-acre vineyard from a well, and he declared that, if the whole vineyard yielded as well as the eight acres, he would have more than 200 tons of raisins. The fruit growers are acquiring lots of valuable experience on account of the drouth. Wells are being dug in all parts of the valley and others are being deepened with good results, and independent water plants will be put in wherever a good supply of water can be obtained. Orange orchards are holding out remarkably well under the circumstances, and should the flume company continue to supply the quantity of water now being furnished, the orange crop, from present indications, will be almost an average one, but, of course, not as large as if water was abundant.

San Joaquin.

HARVESTING RECORD.—Stockton *Mail*, July 31: Brandt Bros.' harvesting outfit made a phenomenal record last Saturday on the Woods Bros.' land on Roberts island. The crew headed and threshed a field of wheat which yielded 1128 sacks as the result of the day's work. This is a third larger than a good day's output.

FRUIT SHIPPING.—*Mail*, Aug. 3: M. Van Gelder of Acampo said that there is two or three times as much fruit being shipped from Acampo this year as usual. Buck & Cory are shipping two or three carloads every day, and when the grape shipments begin this quantity will be increased. The fruit going East is mostly peaches. Drying is in full operation in the orchards, and the orchardists are in fine spirits over the outlook.

BAD SEASON FOR BEETS.—*Mail*, Aug. 2: K. G. Raaf of the Crockett beet sugar factory spoke of the beet industry in this county. He said that about 3000 acres had been planted in the vicinity of Lodi and New Hope, but most had been planted too late. The continued dry weather in the winter, followed by lack of rain in April and May, stunted the growth of beets so that they were unable to withstand the hot weather of summer. Consequently, not more than 400 acres would yield a good crop. "Beets must be put in early," he explained, "and if they get a good start the hot weather won't hurt them. I planted some near Brentwood, where it is as dry as around Lodi, but it happened that I was able to get them in in February, and they will go at least eighteen tons to the acre. There are about 100 acres on Union island which were planted early, and they are all right. We will not urge any one to plant any more; but if they want to risk it, we will take all they raise. If the Woodbridge canal should be a success, the beet business out there would be a great success."

STORING GRAIN.—*Mail*, Aug. 3: Farmers are storing their grain, except what they must sell to meet current expenses, and a great many are storing their entire crop and borrowing money on it. With plenty of money offered on grain at 5% the farmers seem to think it is a good proposition to hold their grain. "Here is what it will cost to hold it for two months," said a gentleman this morning: "Storage will cost 50 cents a ton, insurance 6 cents, and interest on $16 a ton would be nearly 14 cents, making a total of 70 cents a ton, or 3½ cents a hundred for two months."

San Mateo.

BOUNTIFUL HARVEST.—Santa Cruz *Surf*, Aug. 3: San Mateo county is in the midst of one of the most bounteous harvests known in the history of the State. This is particularly so with regard to the cereals. The coast side of the county is not so productive as the bay side this year, and this is owing to the appearance of "rust." The late heavy fogs, however, have materially aided the coast farmers in abating this matter. The yield of barley is enormous, and on many ranches over thirty sacks per acre will be realized.

Santa Clara.

FRUIT HARVEST.—San Jose *Mercury*, Aug. 1: The fruit harvest is progressing satisfactorily at Campbell. The supply of apricots has already begun to diminish. Some pears have commenced to arrive at the cannery, but there will in all probability be a little lull in the business before the full run commences on pears and cling peaches. The drier has been fairly busy during the weak on peaches and apricots. Prunes will come in early this season, as they are already coloring in some of the orchards.

PUMPING FOR IRRIGATION.—Anderson *News*, Aug. 5: The new pumps of the Ludwig Fruit Co., Bellvue Irrigation Co. and the River Bank Orchard Co., which were recently installed are all at work. The last mentioned was started up on Monday. A No. 10 Wood's deep well propeller pump is used, run by an 18 H. P. engine. Although the engine was not in perfect working order, the pump threw a stream of about 200 inches per minute.

BEET NETS AND WAGONS.—Watsonville *Pajaronian*, Aug. 3: The following is a copy of the directions relative to the dimensions of beet nets and wagon beds, which was sent out by the Spreckels Sugar Co. on Aug. 1st: "The beds of beet wagons should be 16 feet long inside, 8 feet wide on top, and 5 feet and 6 inches wide on bottom of bed; depth 15 inches. The bottom, sides and ends must be boarded tight to prevent dirt sifting through. The highest part of rail of bed must not be less than 6 feet nor more than 6 feet and 6 inches from the ground. The edges of all bins and sides of cars are 6 feet and 6 inches from the ground. Beet nets should be 14 feet long and 12 feet wide, made of ⅜-inch rope. Meshes had better be knotted and similar to fish nets, i. e., made so that when stretched the openings or meshes are diamond shaped instead of square—size of mesh 4x6 inches. A ⅞-inch rope should be placed around outer edges of nets to strengthen them. These nets are to be laid with the 14-foot length crosswise in the wagon bed, thus allowing 2 feet of the net to rest against the front edge of the wagon, and lapping 2 feet over the other net in middle of wagon bed."

Sonoma.

PRICE FOR HOP PICKING.—Santa Rosa *Press-Democrat*, Aug. 6: The Sonoma County Hop Growers' Association met and fixed the price for picking the crop at 90 cents per hundred pounds. Last year the price adopted by the association was 85 cents. At the meeting J. W. Hall presided and Joseph T. Grace was at the secretary's desk. The growers present were: W. S. Davis, John M. Laughlin, Guy E. Grosse, H. Finley, Jesse Jewell, M. Hart, J. F. Halberg, J. P. Miller, Leggett Brothers, George Hall, Russell Denner, C. R. Farmer, Joseph McMinn, T. B. Miller, J. W. Hall and Joseph T. Grace. The growers discussed the crop prospects and also the price of hops. It was generally conceded that growers may hope for very fair prices.

Sutter.

MORE CAREFUL PRUNING AND THINNING NEEDED.—Yuba City *Farmer*, Aug. 4: In many of the orchards in this vicinity it is a noticeable fact that the trees are breaking down under the weight of the fruit, and while supported to some extent by poles, yet there will be many trees almost ruined. The causes are mostly from pruning and thinning, the latter principally. Where the fruit was vigorously thinned the trees are holding up well and the fruit is of much better quality. The tree should not be forced to carry more fruit than the branches can stand without breaking, for where the thinning is poorly done the tree is broken down and the fruit is small. Pruning the tree to stand more weight on the outer limbs can also rectify this to a certain extent, and the orchardists should give more attention to these important matters if they expect to preserve their trees and raise good fruit.

Yolo.

COYOTES NUMEROUS.—A dispatch from Woodland, Aug. 3, says: The sheep industry of Yolo county is seriously menaced. Eighteen coyotes were killed during the month of July.

PACKING HOUSE BURNED.—Woodland dispatch, Aug. 1: Fire broke out in the second story of the Yolo orchard packing house today. The framework and ceiling were burned and the galvanized roof fell in. A lot of fruit, boxes and trays were on the second floor. All were saved but a half ton of fruit. Hard and systematic work kept the flames confined to the second floor and prevented a more disastrous conflagration. The loss is estimated at $2000, insured.

Yuba.

HOP CROP.—Wheatland *Four Corners*, Aug. 5: The hop crop is looking fine. The vines are loaded with hops and there are very few leaves to interfere with picking. The berries are plump and are taking on a very uniform yellow. The absence of heavy winds leaves the berry in its normal condition, free from all bruise and discoloration. The rain of Thursday was unprecedented. However, it came at a good time, as it refreshes the hops and promotes the work of filling evenly. At the Horst ranch Preston James has just finished building a kiln in which an experiment in air drying will be tried. The kiln is 16x32 feet, with air-tight sides. A wire floor 2 feet above the main floor holds the hops to be dried. A pipe from a large blower is carried in above and below this floor. The blower is driven by an 8 H. P. engine. The proposed process of drying is to force a current of air from the bottom through the hops for a time and then force the air through the top pipes down.

WASHINGTON.

FRUIT PROSPECTS.—Seattle *Post-Intelligencer*, Aug. 3: Orlando Beck, fruit inspector of Yakima county, is of the opinion that the crop will fall below the average this year. The shortage will be due to the long and variable winter. Some locations were well protected, and there crops will be good, but elsewhere they will be light. Early peaches are showing up well, but reports of the late varieties are discouraging. Pears, prunes and plums are not showing up so well as in the early part of the season. Many apples, after reaching a good size, are dropping from the trees. Grapes have never promised better.

HOP CROP.—Seattle *Post-Intelligencer*, Aug. 3: It is the judgment of men who have seen the hop fields in Washington, Oregon and California that this year the Pacific coast will produce a heavier crop than last year. Louis R. Searles of New York, a well-known hop exporter, discussed the hop situation and outlook. "The Washington crop is in an excellent shape," Mr. Searles said. "Early in the season the crop suffered an attack of vermin, which the growers repelled by spraying. The vermin were destroyed and the crop this year will be free from blemish. In fact, it is evident that the yield will even be heavier by a small margin than last year, the quality being elegant. From what I have seen the yield in this State will be approximately 40,000 bales, as compared with 38,000 last year. Of course it is impossible to predict what price will be paid when the crop is ready for market. But the fact that 13 cents a pound is being refused when the price offered a year ago was only 10 cents, indicates with reasonable certainty that the growers will realize a handsome profit, especially when it is remembered that the yield will average from 1500 to 2000 pounds per acre.

Horse Owners! Use
GOMBAULT'S

Caustic Balsam
A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*
Every bottle sold is warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

From Day to Day.

THE DREAMER AND THE TOILER.

I am tired of planning and toiling
In the crowded hives of men;
Heart-weary of building and spoiling
And spoiling and building again;
And I long for the dear old river
Where I dreamed my youth away—
For a dreamer lives forever,
And a toiler dies in a day.

I am sick of the showy seeming
Of a life that is half a lie,
Of the faces lined with scheming
In the throng that hurries by.
From the sleepless thoughts' endeavor
I would go where the children play—
For a dreamer lives forever,
And a thinker dies in a day.

I can feel no pride, but pity
For the burdens the rich endure;
There is nothing sweet in the city
But the patient lives of the poor.
Oh, the little hands too skilful,
And the child-mind choked with weeds,
The daughter's heart grown willful,
And the father's heart that bleeds.

No, no; from the street's rude bustle,
From the trophies from mart and stage,
I would fly to the wood's low rustle
And the meadow's kindly page.
Let us dream as of yore by the river,
And be loved for the dream alway—
For the dreamer lives forever,
But the toiler dies in a day.

—John Boyle O'Reilly.

In Search of a Wife.

"I'd like to know what I'm to do now."

Squire Pettengill leaned over the gate in deep thought. Mrs. Green, his old housekeeper, had just informed him that her daughter in Iowa was very sick, and she had been sent for to come at once.

"An' as there's no knowin' when I may come back, you'd better get another housekeeper," she said. "If Susan shouldn't live, I s'pose I'd have have to stay there an' keep house for my son-in-law. So don't depend on me."

When she said this to Squire Pettengill, he gave utterance to the remark with which this story opens.

"Do?" responded Mrs. Green. "I know what I'd do if I was in your place—I'd git married."

"Good gracious!" cried the squire, quite startled by the suddenness of the advice. "Get married? Me? Who to, I'd like to know?"

"That ain't for me to say," answered Mrs. Green, "That's your business to find out. I don't think you'd find much difficulty in gettin' some one to have you."

"But mebbe those that would have me I wouldn't want," said the Squire.

"You can tell by tryin'," responded Mrs. Green. "Of course, you don't have to have anybody, just because I spoke of it, but I thought mebbe you'd like it better that way. Hired housekeepers ain't like wimmen who take an int'rest in matters an' things because they b'long there. If you had a wife now, she'd see to things because she was your wife, an' not because she expected to get pay for it. An' it would be cheaper for you, too. 'Twouldn't cost as much to keep a wife as it does to pay me wages."

"I guess you're right about that," said the squire. "But—I can't think who I'd want for a wife, you see. I hain't bothered my head with any ideas about marryin' and it kind o' upsets me to think of it all of a sudden."

"Take your time an' look 'round," counseled Mrs. Green. "If you can't find any one to suit you here, go over to Greenbush an' look 'round there. I'll warrant you'll find wimmen enough that'd be willin' to have ye soon's they find out that ye want a wife."

To-night, as the squire leaned over the gate to smoke his evening pipe, he was giving the matter earnest consideration. He had about come to the conclusion that his old housekeeper's advice was good. But—where should he look for the wife he needed?

"I don't seem to think of anybody just now that I'd like, 'ceptin' Hester Stephens," he said to himself. "An' she's most too young for an old man like me. I wouldn't wonder if I was old enough to be her gran'father. But then old men almost always marry girls when they get marri'd a second time. I ain't much on style, an' I'm 'most too sober to suit a girl like Hester, but I don't b'leeve I'd make her a very bad sort o' husban' after all. I've got money enough to dress her right up in style, an' I know she's smart an' capable an' use to doin' housework. She would be savin', I guess, an' there's one thing, she's good comp'ny. I don't b'leeve she's got a feller. I never heard of her havin' any. I—I b'leeve she'd suit me better'n any one else I can think of just now. I guess I'll go over 'n' talk with Miss Torrey about it."

Miss Abigail Torrey lived across the road from Squire Pettengill's house. She had been an old schoolmate of his. Some persons in the neighborhood could remember when it was thought he would marry her. But instead he had married her cousin, and Miss Abby, as every one called her, had settled down to a life of single blessedness in the old Torrey homestead, within a stone's throw of the man who had been her lover in schoolboy fashion. They had always been the best of neighbors. After his wife died he had got into the habit of "dropping in" two or three times a week to spend an hour or two, and he was always sure of finding a welcome there. Miss Abby was pleasant company. He felt as much at home before her hospitable, old-fashioned open fire as he did under his own roof. Therefore, it was quite natural that he should go to Miss Abby for counsel and advice in this important crisis of his life.

It was a rather frosty November evening, and the fire she had kindled on the hearth made the room bright and cheery, and gave the place a cozy, home look that was very attractive to a man who hardly felt as if he had a place of his own that could be rightly called home. The old gray cat stretched himself out on the rug before the fire and was purring drowsily in the warmth, and Miss Abby's rosy-cheeked face made him think of pippins and gilliflowers as he drew up his chair and sat down opposite her.

Somehow it was hard work for the squire to bring the conversation around to the subject he had in mind. But at last he succeeded in doing so.

"I've got to be lookin' for a new housekeeper," he said. "Mis' Green's goin' to leave me."

"You don't say!" exclaimed Miss Abby. "Who'd you thought of getting?"

"I—I hain't really made up my mind," said the squire. "You see, Mis' Green's put a new idea in my head. She advises me to—to get marri'd; she thinks it'd be better 'n' cheaper'n dependin' on hired help."

"Well, I shouldn't wonder if she was right," answered Miss Abby, knitting away busily.

"I thought I'd run over an' talk with you about it," said the squire. "I'd like your opinion about—about Hester Stephens."

Miss Abbey looked at him inquiringly.

"As a girl, do you mean, or as a possible Mrs. Pettengill?"

"Well, you see," explained the squire, somewhat confused by the directness of the question, "I've been a kind o' thinkin' over the wimmen in the neighborhood that might care to get marri'd, an' some way Hester seemed as if mebbe she'd suit me better'n any one else I could think of. What do you think about it? Do ye s'pose she'd have me?"

"I haven't the faintest idee," answered Miss Abby. "There's only one way to find out, and that's to ask her."

"But you hain't told me your opinion of her," said the squire.

"I think she's a nice girl," answered Miss Abby. "One of the nicest girls in the neighborhood. She's a good deal younger than you, but that hadn't ought to make much difference if she's willin' to marry you."

"Well, that's about the way I looked at it," said the squire. "You think she'd make a good housekeeper, do you?"

"Ah, yes, I've no doubt of that," responded Miss Abby. "Mrs. Stephens has brought up all her girls to work, an' they're all savin' an' prudent."

"I thought so," said the squire. "You don't know whether she's got any feller on the string, I s'pose? I wouldn't care to shine up to her an' find out some one'd got the start o' me."

"I can't say anything about that," said Miss Abby. "You'll have to find that out for yourself."

"Well, then, I git the idea that you think I'd be doin' purty well if I could git Hester," said the squire as he rose to go.

"I think she'd make you a good wife," said Miss Abby, "for she's a good girl."

"That's what I was thinkin'," said the squire. "I'm glad you see's I do 'bout it." And then he said, "Good-night," and Miss Abby was left to think over what he had told her. She sat and thought about it for a long time. When she put away her knitting work and her thoughts, she sighed softly, as we sometimes do over a dream that never comes true.

"Of course, it's all right, Jonathan," she said, stooping to pat the head of the old gray cat on the rug before the fire, "or it wouldn't be so." Then she sighed again, and the old cat got up and rubbed his head against her hand as if to say, let other things be as they might, he was a friend she could depend on.

* * * * * * * *

The squire was going to Greenbush next day. When he got to the top of the hill he saw a woman in the road ahead of him.

"It looks to me like Hester Stephens," he thought. "If it is, I'll ask her to ride, an'—then I'll ask her if she'd like to be Mrs. Pettengill. I will, sure's my name's Calvin. There's no use in beatin' 'round the bush, or in waitin'. I'm too old to go sparkin' as I used to, an' I'd make a fool o' myself if I tried to act like a young man. Out with it, Cal Pettengill, an' done with it. If she's willin' all right; if she ain't, the sooner you know it the better."

It was Hester, and the squire sang out: "Good morning!" and stopped his horse. His heart beat so hard and fast that he wondered if she could not hear it.

"You might ride s'long's you're goin' my way," he said, and Hester very gladly accepted the offer, and was soon mounted by his side in the buggy.

At first he talked of the weather. Then of the crops. Then he asked about the folks. After that there was a long silence.

"Come, come, Calvin Pettengill, out with it, an' have it over!" he said to himself. "It's now or never! You needn't expect another such a chance as this."

He tried three times to speak the words that he wanted to before he succeeded. At last, with an awful effort—

"Hester, I'm glad I overtook you. I wanted to see you about—about gettin' marri'd."

"About getting married!" cried Hester, in great astonishment. "What do you mean? Who's going to get married? You?"

"I— I hope so," blurted out the poor man, feeling cold and hot by turns. "I'm goin' to—if you'll have me!"

"For goodness' sake, Squire Pettengill, are you crazy," cried Hester. "The idea of my marrying you! You can't be in earnest. It's one of your jokes!"

"No, 'taint," cried the squire. "No, 'taint. I'm in dead earnest. My housekeeper's goin' to leave me, an' she advised me to git marri'd, an' I kind o' picked you out—"

He didn't finish the sentence, because Hester broke out into such a laugh that he had not the courage to go on.

"Oh, dear me—the idea!" she cried, as soon as she could speak. "You must be out of your head to think of such a thing!"

"Mebbe," said the squire, his face as red as a lobster. "Then you couldn't see your way clear to—to marryin' me?"

"Of course not," answered Hester, very decidedly. "In the first place, I wouldn't marry a man old enough to be my grandfather, and in the second place, I—I've got plans of my own that would interfere," and she blushed up as redly as a rose, and the blush told what those plans were quite plainly.

"Well, there's no harm done," said the squire, with a sigh over the sudden failure of his plans. "I thought you'd make a good wife, if you'd have me, an' so did Miss Abby."

"See here, Squire Pettengill," cried Hester, "why don't you do the sensible thing and marry her? She's one of the nicest little woman that ever lived, and she's somewhere near your own age, and I know she'd make you happy."

"I—I hadn't thought about it," said the squire. "But I shouldn't wonder if you're right. But—I'm afraid she wouldn't have me now. You see, I talked it over with her about my marryin' you, an' mebbe she'd hate to play second fiddle."

"She needn't know anything about what you've said to me," said Hester. "Go to her and tell her that you've thought it over, and you've concluded that she's the woman you want. If she says anything about the conversation you had about me, laugh at her for thinking you were in earnest. Tell her you did not think she'd be foolish enough to believe you'd marry me if I'd have you. If you'll do this, I'll promise to never say one word to anybody about what you've said to me this morning. She shall never know that you came to her because other plans would not work. Is it a bargain?"

"Well, yes," said the squire. "Lord, what a fool I've made of myself! I might ha' known as purty a girl as you are would have a beau if I'd stopped to think."

"And you might have known, if you'd stop to think about it, that Miss Abby was just the woman you needed for a wife," said Hester.

* * * * * *

That night the squire called on Miss Abby again. It seemed to him, as he sat down by the fire, that the room had never looked so cheerful and cozy before. There was a bowl of seek-no-furthers on the table, and a pitcher of new cider, just as if she had been expecting him. And she looked almost as pretty, if not quite as young, as Hester.

"How could I have been such a fool?" he thought. "Of course, she's the very woman for me. I used to think so, an' I ought to ha' thought so now, 'thout waitin' to be told of it."

"You know what we talked about las' night, Abby?" he said by and by, feeling his heart begin to thump very much as it had in the morning. "Have you changed your opinion about Hester Stephens bein' the kind of a wife I need?"

"I don't know's I said she was the kind of a wife you needed," answered Miss Abby. "I said I thought she'd make you a good wife, if you got her."

"I—I s'pose you thought I meant all I said, eh?" Squire Pettengill looked very wise and knowing as he launched out into his course of deception. "I don't s'pose, now, it ever occurred to you that I was jest talkin' to—to pull the wool over your eyes, so to speak?"

"I can't say it did," she answered.

"An' I s'pose it never occurred to you that you're the woman I had in mind?" said this deceitful man, growing suddenly bold. "I want you for my housekeeper, Abby. I'd rather have you than all the girls in Connecticut. What d'ye say—yes or no?" And the squire faced her with all the enthusiasm of a younger wooer, and waited impatiently for her answer.

"It's yes, Calvin, if you want it to be," she said, lifting her eyes to his with a happy light in them.

"It's a barg'in, then," cried the squire, and then he kissed her, much to the astonishment of old Jonathan, who had never known anything like it before.

"And you really thought I meant

what I said about marryin' Hester Stephens?" chuckled the squire, as he rose to go. "I was sure you did! That's the time I got the start of ye! I sh'd ha' thought, Abby, you'd ha' give' me credit for bein' more sensible."

If Miss Abby could only have known how he came to his senses! But, then—it was well she did not, for she might have resented a suitor at second hand!

Luck and Laziness.

Were I asked to give definite advice to a young man of intelligence and health but without capital or the training of the schools, remarked James J. Hill, president of the Great Northern Railroad, I should say, first of all, that he must remember that opportunity has much to do with success in any place, and in any circumstances; in other words, there is something in luck. At the same time luck and laziness don't go together, and opportunities will not hunt him up. He must look for them and work for them and, after all, the measure of success depends a good deal upon the man. Such a young man as you suggest could not win if he were bent on living as if he had an income of thousands, while yet his income were not more than from $400 to $600 a year. But let him work steadily, live prudently and give signs of intelligence and enterprise, and help will eventually come to him. In truth, help for such young men is constantly looking for them to take it; help to buy farms, help to take charge of enterprises, small at first, but in this period of rapid evolution, sure to grow into something well worth while; help of greatly diversified sorts. No one who reflects a bit can fail to see the falsity of the notion that the day of rapid development of big enterprises has past. It is true, for instance, that more miles of long-distance steam railroads have been built than are yet to be constructed, but the development of urban and interurban electric railroads is still comparatively in its infancy. The same is true of many other forms of development. They all require capital; but when of the right sort, a young man need have no difficulty in attaching himself advantageously to those who can command it. One of our most serious troubles, at the present time, is the scarcity of proper men to place in posts of trust and responsibility as foremen, superintendents, and the like. We simply can't find them fast enough.

A July Shower.

Thick lay the dust, uncomfortably white
In glaring mimicry of Arab sand.
The woods and mountains slept in hazy light;
The meadows looked athirst and tawny tanned;
The little rills had left their channels bare,
With scarce a pool to witness what they were;
And the shrunk river gleamed 'mid oozy stones,
That scared like any famished giant's bones.

Sudden the hills grew black, and hot as stove
The air beneath; it was a toil to be.
There was a growling as of angry Jove,
Provoked by Juno's prying jealousy;
A flash—a crash—the firmament was split,
And down it came in drops—the smallest fit
To drown a bee in foxglove bell concealed;
Joy filled the brook and comfort cheered the field.
—Hartley Coleridge.

"WHAT is a furlough?" asked a teacher.

"It means a mule," was the reply of Mary.

"Oh, no," replied the teacher; "it doesn't mean a mule."

"Indeed it does," said Mary; "I have a book at home that says so."

"Well," said the teacher, now thoroughly interested, "you may bring the book to school, and we'll see about it."

The next day Mary brought the book and, in some triumph, opened to a page where there was a picture of a soldier riding on a mule. Below the picture were the words: "Going Home on his Furlough."

Have more than thou showest,
Speak less than thou knowest,
Lend less than thou owest,
Ride more than thou goest.
—Shakespeare.

Eden.

"Where then is Eden? Ah! Why should I tell
What every eye and bosom knows so well?
Why name the land all other lands have blessed,
And traced for ages to the distant West?
Why seek in vain throughout the historic page
For Eden's Garden and the Golden Age?
Here! Brothers, here! no farther let us roam,
Here is the Garden! Here is our home!"
—W. H. RHODES.

Whatever Is, Is Right.

All Nature is but art, unknown to thee;
All chance, direction, which thou can'st not see;
All discord, harmony, not understood;
All partial evil, Universal Good;
And, spite of pride, in erring reason's spite,
One truth is clear, whatever is, is right.
—Pope.

What Not to Eat.

Mrs. Dutton of Troop Polytecnic Institute, Pasadena, who has been conducting the class in domestic economy at the Long Beach Chautauqua Assembly, closed her series with a radical talk. "Nobody should ever," said she, "eat pie, nor doughnuts, nor pork, nor veal, nor fried meat, nor fried potatoes, nor pancakes, nor pickles (except olives), nor boiled coffee, nor anything made of graham flour. All should be very careful in eating potatoes, croquettes and all compounded dishes, cakes and desserts. Thin people should use cereal coffee, toasted bread and fats, and consumptives especially should eat abundance of fats and use pure cream and olive oil externally, rubbing it thoroughly into the flesh. Children should never be given coffee, cocoa or tea until they are out of their teens at least. They need no stimulants such as these all are. The ideal meal is one that embraces a bone-making, a muscle-making and a heat and force-making food. Such meals would include, for breakfast, a well-cooked cereal, shredded whole-wheat biscuits well cooked, a meat or egg (nitrogenous food), hot milk or a cup of well-made coffee, bread, butter and a little fruit; for luncheon, a cream soup, toasted bread, a warm made-over dish and one vegetable, such as peas or beans, and a light desert; for dinner, a clear soup, a meat, preferably mutton or beef or fish, one starchy and one sunlight vegetable, a salad of lettuce or cress, or cold boiled beans with French dressing, and a piece of ripe cheese and bread.

Nature Study.

It is well to inculcate a love of Nature in children, not only as a means of amusement, but because of the happiness such a love may bring to them in maturer years. The little ones in the country or at the seaside may be taught to observe closely the many varieties of leaves, grasses, flowers, seaweeds, pebbles, and little collections should not be discouraged, even though one may be annoyed by the "clutter." With the rational amusement afforded the little ones, giving parents or nurses much needed rest from constant entertaining during the long summer days, habits are being acquired which will be a source of lifelong pleasure.

One who does not observe closely when in Nature's haunts misses much of true happiness. The natural world is as an open book, awaiting perusal. One who enters upon its study is insensibly drawn nearer to God, Whose works preach sermons to the sensitive soul more potent and eloquent than many which may be heard in costly city edifices. To such a soul a single flower, the song of a bird, the busy hum of insects, the purl of a brook, may be sources of truest inspiration, leading to spirituality of living and to a high mental and moral achievement. —Elizabeth Robbins Berry.

WILLIE—Pa, I wish you had a little more lightning about you.

Pa—Why, ain't I spanking you hard enough?

Willie—Yes; but lightning never strikes twice in the same place.

DOMESTIC ECONOMY.

Domestic Hints.

PEPPERS WITH RICE AND TOMATO.—Prepare peppers as for stuffing with rice, but before filling them with this, pour over it a cupful of good tomato sauce. Stir this with the rice until they are well blended, fill the peppers with the mixture, put them in a vegetable dish and let them stand, uncovered, in the oven until they are hot through.

CUCUMBER SAUCE.—Pare two cucumbers. Cut lengthwise in quarters and cut off the edge containing the seeds if they are large, then chop fine, and squeeze through cheesecloth quite dry. Season with salt, paprika and vinegar, and stir in one-half cup thick cream whipped stiff. This is especially suitable for broiled fish.

BEAN SALAD.—String the beans and cut them in halves lengthwise. Boil in salted water until tender, or they may be cooked in butter, German style; if the latter method is used let them stand until cold, then rinse off the butter with plenty of boiling water. Drain thoroughly, marinate with a French dressing, and let them stand for an hour before serving. Garnish with finely chopped parsley.

BERRY MUFFINS.—Mix thoroughly two cups sifted flour, one-half teaspoon salt and two slightly rounded teaspoons baking powder. Cream one-fourth cup butter with one-half cup sugar, add well-beaten yolk of one egg, one cup milk and then the flour mixture and beat well. Add white of egg beaten stiff, and then stir in carefully one heaped cup blueberries which have been picked over, rinsed, dried and rolled in flour. Bake in muffin pans about twenty minutes.

THICK FILLING FOR CHOCOLATE CAKE. Scald one pint of milk in a double boiler. Mix together one cupful of sugar, one-third of a cupful of flour and a pinch of salt, add to it two well-beaten eggs and, when well mixed, the scalded milk. Return to the double boiler and stir until the mixture thickens smoothly, then cover and cook for twelve minutes, stirring occasionally. Scrape two squares of unsweetened chocolate, melt over hot water and add to the cooked mixture. Cook for three minutes longer, take from the fire, add one teaspoonful of vanilla and spread between the layers of cake.

COFFEE PARFAIT.—Pour a pint of boiling milk over a quarter of a pound of freshly roasted and ground coffee, and let it steep closely covered for an hour. Put in a basin the yolks of six eggs and half a pound of sugar, beat well, and strain over them the boiled milk. Stir over the fire until the custard has thickened. Set in a cool place, stirring occasionally, and when nearly cold strain into a bowl, set on ice and whisk the mixture until frothy and cold. Add gradually a pint of whipped cream, mix well together and pour into a parfait mold. Cover with a piece of paper, put on the lid and bury the mold in powdered ice and salt, leaving it to freeze for two or three hours. When ready to serve, wipe the mold carefully, dip into cold water, turn out and serve at once.

Hints to Housekeepers.

A bit of soap applied to a creaky hinge will usually cure its stiffness and silence its creaking.

New potatoes should be washed, scrubbed and scraped, never pared. After boiling a small portion of thick cream sauce is poured over them.

To launder embroidered linens, wash them in a suds made from Castile soap, and iron them on the wrong side, while quite damp, upon a board covered with several thicknesses of Canton flannel.

To clean painted walls, wash with a large sponge dipped in warm water in which soda has been dissolved, using always a downward movement. Change the water often. Wipe dry with waste or soft flannels.

Salmon sandwiches may be made from the canned fish or from a bit left over from the dinner fish course. Shred the salmon fine and mix with it some sliced cucumber pickles, chopped fine, or capers if preferred. Over this is poured a very little melted butter, and red pepper and salt are dusted lightly on the mixture before the bread is spread with it. This is an excellent filling for rolled sandwiches.

Corn that is to be used in the making of a corn omelet should be scraped rather than cut or grated from the ear. A good proportion is a pint of corn to five eggs and half a cupful of cream. The yolks are beaten light and the cream and corn added, with a good seasoning of salt and pepper, before the whites, beaten to a stiff froth, are lightly stirred in. This makes enough for two omelets to be made, first one and then the other, both to be served at once. If the mixture is halved, three eggs to a pint of corn is the proper proportion.

Sand soap is recommended as specially useful in the case of small boys, whose hands often refuse to yield to the softer persuasions of ordinary soap and water. It may be made at home much cheaper and better than it can be purchased. Cut into pieces any pure soap and melt it. When quite soft, remove from the fire and stir into the mixture about half the quantity of clean, dry sea sand that has been well heated. As soon as the mixture is cool enough to handle roll into balls or cut into squares and put into a cool place to dry and harden.

A sudden and wearing attack of coughing often needs immediate attention, especially in consumptives and those chronically ill. In an emergency, that ever useful remedy, hot water, will often prove very effective. It is much better than the ordinary cough mixtures, which disorder the digestion and spoil the appetite. Water, almost boiling, should be sipped when the paroxysms come on. A cough, resulting from irritation, is relieved by hot water through the promotion of secretion, which moistens the irritated surfaces. Hot water also promotes expectoration, and so relieves the dry cough.

A rich syrup that can be made at home is the best substitute obtainable for pure maple syrup, and is excellent to serve with waffles or griddle cakes for Sunday night tea. A pint and a half of boiling water is added to five pounds of C sugar. The sugar and water should be put in a porcelain or graniteware saucepan and stirred until the sugar is well melted before it is put over a hotter part of the range and boiled for ten minutes. If to this proportion is added a pint bottle of pure maple syrup, or better still, of maple sugar melted in a little hot water, the flavor is enhanced, and the whiteness of the syrup only slightly lessened. This syrup should be kept in glass jars or an earthen jug.

Aftermath.

And there are hearts like richest wines,
That sweeter grow with Time's caress,
Till he who softly opens, finds
A hidden store of happiness.
—E. H. Keene.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 9, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Sept.	Dec.
Wednesday	69⅞@70	71¼@72
Thursday	70 @69¾	72⅛@71½
Friday	69⅛@69¾	71⅝@71⅞
Saturday	69⅝@69¼	71¾@71½
Monday	69⅜@69	71⅝@71¼
Tuesday	68⅞@68⅜	71⅛@70¾

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 8¾d	5s 10½d
Thursday	5s 8¾d	5s 10 d
Friday	5s 9 d	5s 10¼d
Saturday	*-s —d	-s —d
Monday	*-s —d	-s —d
Tuesday	5s 8½d	5s 9½d

*Holiday.

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 11 @1 10	1 14¼@1 13⅝
Friday	1 09⅞@1 10¾	——@——
Saturday	1 10¾@1 10⅜	1 14 @——
Monday	1 10⅜@1 10¼	1 13⅞@——
Tuesday	1 09½@1 09⅜	——@——
Wednesday	1 10⅛@1 10⅜	1 14¼@——

Wheat.

The wheat market has continued to sag, as was to have been anticipated from the conditions of preceding week. Chicago took the lead in the matter of weakness, declining 3@3¼c per bushel, principal among the reasons assigned being increased deliveries and decreased demand. The English market remained practically unchanged as regards prices, but strength was lacking. In the local speculative market, options declined about 2c per cental, while in the spot or sample market quotations for shipping grades were marked down 1¼c per cental or 25c per ton. On milling wheat, however, there was no appreciable decline in values. The speculative market to-day shows slight recovery. The visible supply in the United States east of the Rockies was given at 136,132,000 bushels on 1st inst., showing an increase of only 146,000 bushels for week preceding.

In the various reports now being issued concerning wheat and the market for the same, there is a generally gloomy outlook given to the situation, particularly in the reviews emanating from those in the trade. Such facts as tend to depress values and impart weakness are dwelt on much more at length and are given more emphasis than any items calculated to impart confidence in the future. It is true, there is a general absence of firmness for the time being in the leading markets of the world, and that there should be this condition at this particular time is as natural as for water to flow down hill. The largest portion of the world's wheat crop is harvested between June and October, and much of this portion is now being urged to sale. Importing countries are buying slowly, and the more pressure there is exerted to realize, the lighter becomes the demand, in conformity with a rule which may be seen in all kinds of trade and in the varied dealings of private individuals, the rule being in substance that individuals, and nations as well, which are only aggregations of individuals, invariably crave most that which is most difficult to secure, and care the least for that which is the most easily acquired. This applies not only to wheat, but every food product and to every article which is made the subject of barter and sale. To make the point clear, take the case of a common vegetable such as the tomato, which in its season is generally a drug in the market, selling down to $10 per ton and less, and is always obtainable at a low figure in a canned state, but let this vegetable become scarce in a fresh state, and it will command at the rate of $200 per ton more readily than $10 when there is a surplus. The weaker the wheat market becomes the less desirous operators are to take hold, but let some unforseen development increase the demand in some one portion of the world, and immediately buyers everywhere grab for it, and will often pay much higher figures than anyone pretended to ask a few days previous. While conditions now are in the main unfavorable for the seller, it by no means follows that they must remain so. In fact, a long observation of the market would confirm the opinion that chances are much more favorable for strength later on than if, with the present volume of supplies, prices were now at a high range, and there was little wheat obtainable. The natural trend then would be for prices to decline as the season advanced.

California Milling	$1 05 @1 10
Cal. No. 1 shipping, alongside	1 01¼@1 03¾
Oregon Valley	1 02½@1 07½
Walla Walla Blue Stem	1 05 @1 10
Walla Walla Club	1 00 @1 05
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.11@1.09¼.

May, 1900, deilvery, 1.13⅝@1.14¼.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.10⅛@1.10⅜; May, 1900, 1.14¼@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s7½d@6s8¾d	6s0d@6s0¼d
Freight rates	26¼@27½s	31¼@—s
Local market	$1.20@1.25	$1.03¾@1.06¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

In sympathy with wheat the market for this commodity is lacking in strength, particularly in all centers where producers of any extended area forward their surplus for disposal. There has been considerable cutting of rates lately, making it difficult to give close quotations, except for minor transactions, or for brands in high favor with the retail trade and with consumers. Supplies are considerably larger than immediate custom can be secured for at prevailing rates.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Market has not shown much activity the current week, both shippers and local millers operating very lightly, although prices were at a decidedly lower range than a few weeks ago when demand was brisk, especially for export. Shippers claim they are unable to secure satisfactory bids on cargoes. It is probable that fsreign buyers have enough for the time being and are waiting, in the hope of being able by so doing to purchase to better advantage later on. On Saturday last one full cargo of barley, 48,941 centals, valued at $51,338, was cleared for Great Britain, and another ship took 63,023 centals, valued at $63,000, for Belgium. The above made a total of 5600 tons, representing a valuation of $114,000—a very good record for one day for the barley export trade. Feed descriptions were offered rather freely, with limited inquiry, especially for common qualities. Considerable of the barley coming forward is of such "shoepeg" style that it is not desirable even for feed. Prices in the speculative market did not fluctuate to as great an extent as preceding week, but the trend of values on Call Board most of the time was in favor of buyers.

Feed, No. 1 to choice	83¾@ 86¼
Feed, fair to good	80 @ 82½
Brewing, No. 1 to choice, new	90 @ 95
Chevalier, No. 1 to choice	1 17½@1 22½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 81@83c.

December, 1899, delivery, 82¼@84¼c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 83@83¼c; seller 1899, new, 82c bid.

Oats.

Market for this cereal has been in rather peculiar shape lately, unsettled and irregular. The kinds of oats most wanted, good to choice White for feed, were in very limited supply and against buyers, while Reds and Blacks were plentiful and cheap, particularly Reds, including some very good qualities. The very best of the latter variety were not quotable over $1.12½, while some very ordinary White were held at fully as high figure. That this anomolous condition of affairs will long continue is not probable. White oats will soon be in better supply. Surprise and Gray are in such limited stock at present as to be hardly quotable in a regular way.

White Oats, fancy feed	1 30 @1 35
White, good to choice	1 17½@1 25
White, poor to fair	1 05 @1 10
Gray, common to choice	1 10 @1 25
Milling	1 30 @1 40
Surprise, good to choice	1 35 @1 45
Black Russian	97½@1 10
Red	97½@1 12½

Corn.

Eastern product, both White and Large Yellow, but principally the latter, continues to arrive in fairly liberal quantity, considering the limited demand. Values are being maintained closed to the range last quoted, with supplies of imported wholly in second hands, having been purchased prior to arrival. Small Yellow is held mostly by one or two firms, and in such light quantity that little other than a retail trade is possible in this variety at present.

Large White, good to choice	1 10 @1 12½
Large Yellow	1 07½@1 10
Small Yellow	1 40 @ —
Eastern Mixed	1 02½@1 05

Rye.

In quotable values there are no appreciable changes to record, but stocks have been materially reduced by the shipment to Belgium the past week of 17,287 centals, the clearance value being $15,600.

Good to choice, new	95 @1 00

Buckwheat.

Values were poorly defined in the absence of supplies or offerings. New crop will be due on market in about a fortnight. Early offerings will very likely receive prompt attention.

Good to choice	2 50 @ —

Beans.

The market has continued in much the same quiet condition as during preceding week. Asking rates are without noteworthy change, and holders as a rule are not disposed to crowd offerings to sale. Under selling pressure, however, it would be necessary to accept lower figures than have been lately current. The principal holdings in this center are of Lady Washingtons or Large Whites, and Bayos and Pinks. Supplies of Pea and Small White are of fair volume, as compared with the demand for the same. Limas are not in heavy stock, either here or at points of production. Reds are scarce, as are also Black-eyes. Other kinds not enumerated herewith are practically out of market. New crop will begin to arrive in about thirty days, and from present indications will be composed largely of colored varieties.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 70 @1 80
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 25 @2 35
Bayos, good to choice	1 75 @1 90
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	4 15 @4 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Advices by recent mail from New York give the following review of the bean market in that center, prices quoted being per 60-lb. bushel:

Exporters were very indifferent buyers of Marrow beans early in the week, and with an exceedingly sluggish home trade the market was in a most unsatisfactory condition; but during the last half of the week more West Indian orders came to hand, and sellers accepted $1.47½ f. o b., being glad of an opportunity to move the goods; that rate is now generally asked, but we hear that a few lots that had to be moved from the dock were shaded to-day to $1.45. Medium and Pea have dragged heavily and prices have further declined, closing easy; choice Pea are now offering freely at $1 35, possibly a little less in instances, and Medium are selling generally at $1.35. A little export business has been done in Red Kidney at $1.67½@1.70, more of the late sales being at the inside rate. White Kidney still very scarce and held firmly. Yellow Eye quiet but without quotable change. Turtle Soup almost nominal for want of demand. California Lima have been well sustained, but only a moderate inquiry noted; held at $2.80. Only a little doing in green peas and with some decline at the West the feeling here is a shade easier.

Dried Peas.

Values are wholly nominal at this date, owing to market being bare of offerings. There are not likely to be any supplies of consequence for several months to come.

Green Peas, California	2 30 @2 40
Niles Peas	2 00 @2 10

Wool.

While the market remains quotably the same as previously noted, there is little trading at present. Several reasons may be given for the lack of activity, prominent among them being the fact that offerings from first hands are comparatively light and do not afford much opportunity to make selections. Then, again, asking rates for most of the present holdings are higher than buyers can see their way clear to pay. Eastern markets are reported firm and in really better shape for the selling interest than a month or two ago, when prices here were stiff and market was active. When fall clip puts in an appearance in quotable quantity, which will likely be in a few weeks, a renewal of business may be looked for, at least of moderate proportions. Some fall clip is now being received, mostly in small quantities and mainly of lambs. The best portion of the fall clip will be apt to meet with very prompt custom and bring comparatively good figures, but this wool will not arrive until late in the season.

SPRING.

Humboldt and Mendocino	15 @18
Northern Sacramento Valley, free	12 @14
Northern Sacramento Valley, defective	9 @11
San Joaquin foothill, free	10 @12½
San Joaquin foothill, defective	8 @10
San Joaquin plains and southern, 7 mos.	—@—
San Joaquin plains and southern, 12 mos.	7 @10
Nevada, as to condition	10 @14
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @18

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	—@—
Plains, defective	—@—

Hops.

Nothing new has been developed in the market for hops since previous review. Spot stocks of 1898 hops are too insignificant to admit of any noteworthy business, and there is no disposition shown at present on the part of either dealers or growers to trade in this year's hops to arrive. Picking and curing should now be in progress in the earliest localities, and in a few weeks will be general throughout this State. Not until next month will hops begin to mature in Oregon and Washington. The most busy time in the movement of the crop is generally in October and November.

Good to choice, 1898 crop	12 @16

The following report of the hop market comes through from New York by mail of recent date:

A further considerable reduction in local holdings has been made again this week, partly by shipments to Europe and partly by deliveries to brewers. New business has been light, but the market has had a steady tone throughout, and holders evidently feel sufficient confidence in the position to prevent any pressure to sell. Reports from the breweries indicate large business, and a good many hops are being worked up; this would tell on the market here were it not for the fact that many of the brewers entered the summer with very liberal supplies on hand, and they have not felt the necessity as yet of making further important purchases. So far as we can judge from reports received this week, the outlook for the crop on both sides of the water is about the same as previously indicated in these columns.

Hay and Straw.

Prices for hay remain at a low range and the only encouraging feature of the market at present is that bedrock seems to have been reached, with probability of some increase in the demand and slight hardening of values in the near future for grain hay. City dealers will now likely begin storing for the Winter, as both prices and condition of the hay warrant such a course. No great advance is likely to be experienced without checking the demand and causing a relapse. The quantity of hay in the region tributary to this center is heavy and will undoubtedly prove ample for the season's requirements.

Wheat	7 00@ 9 00
Wheat and Oat	7 00@ 8 50
Oat	6 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	——@——
Compressed	8 00@10 00
Straw, ₱ bale	25@ 40

Millstuffs.

Market for Bran and Middlings showed much the same general condition as for a fortnight or more preceding, demand and supplies coming nearly balancing. Rolled Barley inclined in favor of buyers, market being weak at the quotations. Values for milled Corn were reduced about 50c per ton.

Bran, ₱ ton	16 00@16 50
Middlings	18 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	19 50@20 00
Cornmeal	23 50@ ——
Cracked Corn	24 50@ ——

Seeds.

Trade in this department is exceedingly light at present. There is not much stock of any sort now offering. The light supplies and insignificant business make it difficult to name values. New crop Mustard is expected to soon put in an appearance, but it is not likely that the quantity will prove large.

	Per ctl.
Mustard, Trieste	2 50@——
Mustard, Yellow	2 50@3 00
Flax	——@——
	Per lb.
Canary	3 @3¼
Rape	3 @4
Hemp	4½@4½
Alfalfa, Utah	—@—

Bags and Bagging.

At this writing the British ship Macduff, from Calcutta for Portland with four million Grain Bags, is out 181 days, and reinsurance on ship and cargo has been advanced to 30 per cent. This is an exceedingly long time for the voyage in question, with no knowledge of the vessel having put in at any port on the way. The market naturally shows firmness, but should the ship prove a loss, it is not likely that any grain will go unsacked for lack of bags. Wool Sacks are being taken in moderate quantities at former rates for Fall clip.

Calcutta Grain Bags, buyer July	—@—
San Francisco Grain bags, 22x36, spot	6½@ 6¾
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5¼@ 6

Hides, Pelts and Tallow.

With no heavy offerings of any of the articles quoted under this heading, and a very fair demand, prices throughout are being at present very well sustained.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls
Heavy Steers, over 56 lbs	10@10½	9@ 9½
Medium Steers, 48 to 56 lbs	9@ 9¾	8@ 8¾
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

There is not much offering, either here or at producing points. Market is firm at the quotations. Business is of necessity largely of a light jobbing character.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

Offering of this commodity are light, and will probably so continue throughout the season. Values remain quotably as last noted.

Good to choice, light, ₱ lb	26½@27
Dark	25 @26

Live Stock and Meats.

Beef was not in very active request, but supplies were of only moderate volume, and former prices continued in force. Veal remained scarce and high. Mutton was not in particularly heavy stock and commanded quite steady figures, although demand was light. Hogs brought about as good prices as for a week or two preceding, but the next turn in values is likely to be to easier rates.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 7@—c; wethers	7 @ 7¼
Hogs, hard grain fed, medium	5¾@ 6
Hogs, small, fat	5¾@ 6
Hogs, large hard	5¾@ 5¼
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	10 @11
Veal, large, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8¼@ 9

Poultry.

Arrivals of poultry from points in this State were not heavy, and if it had been necessary to depend on these alone there would have been a stiff market. Eastern poultry continued in heavy receipt, however, fully five carloads arriving within the week, and prices for both domestic and imported were in consequence at a low range. Eastern poultry sold at figures allowing little or no margin over cost of laying down.

Turkeys, young, ₱ lb	15 @ 17
Turkeys, live hens, ₱ lb	11 @ 13

Turkeys, live gobblers	11	@	13
Hens, Cal., ₱ doz	4 00	@5	00
Roosters, old	4 00	@4	25
Roosters, young, (full-grown)	4 50	@5	50
Fryers	3 50	@4	00
Broilers, large	2 50	@3	00
Broilers, small	2 50	@3	00
Ducks, ₱ doz	3 00	@4	50
Geese, ₱ pair	1 12½	@1	25
Goslings, ₱ pair	1 25	@1	50
Pigeons, Old, ₱ doz	1 50	@1	75
Pigeons, Young	1 50	@1	75

Butter.

An advance of fully a cent per pound has been established in quotable rates for best fresh butter, both creamery and dairy. There is considerable poor fresh on market which will not command any more than ordinary packed. While the market for choice to select fresh is moderately firm, it would not be advisable to crowd prices much further upward at present, as such course would simply make an opening for Eastern butter.

Creamery extras, ₱ lb	22	@	—
Creamery firsts	21	@	—
Creamery seconds	20	@	—
Dairy select	19	@	20
Dairy seconds	16	@	17
Dairy, soft and weedy	—	@	—
Mixed store	13	@	14
Creamery in tubs	18	@	20
Pickled Roll	18	@	20
Firkin, Cal., choice to select	18	@	20
Firkin, common to fair	15	@	16

Cheese.

Market remains firm, although spot supplies are a little larger and the demand less active than it was a few weeks ago. That the market will incline materially in favor of buyers in the near future is not probable. The last quoted advance on Eastern cheese is being well maintained.

California fancy flat, new	10	@	—
California, good to choice	9	@	9¼
California, fair to good	8	@	8½
California Cheddar	—	@	—
California, "Young Americas"	9	@	11

Eggs.

The tendency on choice to select was to slighty firmer figures, although no appreciable change was established in quotable rates. Not many eggs are arriving from any point in this State, and especially are choice in light stock, but there is no brisk demand at present. Eastern are in liberal supply, including various grades, which are going at a wide range of prices.

California, select, large white and fresh	22	@	—
California, select, irregular color & size	19	@	21
California, good to choice store	16	@	18
Eastern, as to section and grading	14	@	18
Eastern, cold storage	—	@	—

Vegetables.

Onion market was very stiff, owing to shipments to Australia and Manila. Demand is now lighter, however, with prices lower, and values may rule still easier the coming week. Prices for other vegetables were without radical change, although the market on the whole presented a slightly better tone than preceding week. Supplies were somewhat excessive of Corn, Squash, Cucumbers and Tomatoes.

Asparagus, fancy, ₱ box	—	@	—
Asparagus, No. 1, ₱ box	—	@	—
Asparagus, common to fair, ₱ box	—	@	—
Beans, Wax, ₱ lb	2	@	3
Beans, Vacaville, String, ₱ lb	1½	@	2
Beans, Lima, ₱ lb	4	@	4½
Cabbage, choice garden, ₱ 100	50	@	60
Caulliflower, ₱ doz	50	@	—
Corn, Alameda, ₱ crate	1 00	@	1 50
Corn, Green, ₱ sack	25	@	75
Corn, Berkeley, ₱ crate	40	@	75
Cucumbers, Alameda, ₱ large box	25	@	35
Cucumbers, ₱ small box	—	@	—
Egg Plant, ₱ box	40	@	60
Garlic, new, ₱ lb	2	@	3
Mushrooms, Buttons, ₱ lb	—	@	—
Mushrooms, wild, ₱ box	—	@	—
Okra, Green, ₱ box	40	@	65
Onions, Yellow, good to choice, cental	1 00	@	1 15
Onions, New Red, ₱ cental	—	@	—
Peas, Sweet, Garden, ₱ lb	3	@	4
Peas, common, ₱ lb	1½	@	2½
Peppers, Green Chile, ₱ box	35	@	60
Peppers, Bell, ₱ large box	50	@	75
Rhubarb, ₱ box	—	@	—
Squash, Bay, ₱ large box	15	@	30
Squash, Marrowfat, ₱ ton	—	@	—
Squash, Summer, ₱ small box	—	@	—
Tomatoes, Bay, ₱ large box	35	@	60
Tomatoes, ₱ small box	15	@	25

Potatoes.

The market for potatoes most of the week has tended in favor of the selling interest, with only moderate receipts and a very fair demand, particularly for choice to select. As has been the case throughout the season up to date, most of the supplies are from the Sacramento river region. Sweets arrived sparingly.

Burbanks, River, ₱ cental	—	@	—
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	—	@	—
Early Rose	75	@1	00
Garnet Chile	1 00	@1	15
Burbanks, ₱ cental	1 00	@1	20
Sweet River, ₱ cental	2 00	@3	00
Sweet Merced	—	@	—

The Fruit Market.

Fresh Fruits.

The market for fresh fruits has been liberally stocked the past week with most kinds now in season. Apples were plentiful, but offerings were largely ordinary qualities, and such dragged at a low range of values. Choice to fancy, desirable for shipment, were not in excessive supply, and were in good request. Fine four-tier Gravenstein were quotable at 80@90c wholesale, and in a small way slightly higher figures were obtainable. Bartlett Pears are going to canners on contract at $40 @45 per ton for choice stock. Present offerings in bulk on this market are selling mainly within range of $20@35 per ton for fair to good, with practically no high grade Bartletts for sale. Plums suitable for canning are selling in bulk mostly at $10@20 per ton, as to size and condition, with a possibility of an advance of about $5 per ton on latter rate for extra large and fine fruit. Peaches have fluctuated very little within the week, and most of the time have been in materially larger receipt than was warranted by the demand. Sacramento river Peaches were especially in heavy supply, selling mainly at 15@25c per basket on wharf. The quotable range on boxed Peaches was 20@50c per box, as to variety, condition and style of packing. Some of superior quality brought an advance on quotable rates, mostly in a small way to special trade. Nectarines were not plentiful, and choice Red brought comparatively good figures, while White dragged, the latter sort not being in favor in a fresh state. Grapes were in increased supply, and there was a greater variety offering than previous week, but most of this fruit was too green to be sought after. Watermelons and Cantaloupes were in larger receipt and lower. Raspberries and small Strawberries sold at an advance, supplies being light. Other berries in season went at generally unchanged rates.

Apricots, good to choice Royal, ₱ ton	—	@	—
Apricots, Royal, ₱ box	—	@	—
Apricots, Pringle, ₱ box	—	@	—
Apples, fancy, ₱ 50-lb. box	—	@	—
Apples, good to choice, ₱ 50-lb. box	75	@	90
Apples, Green, common to fair, ₱ 50-lb. box	25	@	50
Blackberries, ₱ chest	3 00	@	4 50
Cantaloupes, ₱ crate	75	@	1 50
Cantaloupes, Nutmeg, ₱ crate	40	@	1 00
Cherries, Black, ₱ box	—	@	—
Cherries, Red, ₱ box	—	@	—
Cherries, Royal Anne, ₱ box	—	@	—
Cherries, White, ₱ box	—	@	—
Crabapples, ₱ small box	35	@	60
Currants, ₱ chest	—	@	—
Figs, Black, 2-tier box	1 00	@	1 50
Figs, Black, ₱ drawer	40	@	75
Gooseberries, ₱ lb	—	@	—
Gooseberries, ₱ 10-lb box	—	@	—
Grapes, Black, ₱ crate	40	@	75
Grapes, Fontainebleau, ₱ crate	40	@	65
Grapes, Muscat, ₱ crate	50	@	90
Logan Berries, ₱ chest	8 00	@10	00
Nectarines, Red, ₱ box	50	@	75
Nectarines, White, ₱ box	30	@	50
Peaches, fancy wrapped, ₱ box	40	@	50
Peaches, ₱ box	20	@	40
Pears, Bartlett, No. 1 to choice, ₱ ton	35 00	@45	00
Pears, Bartlett, ₱ 40-lb. box, wrapped	65	@ 1	25
Pears, common, ₱ basket	25	@	40
Pears, ordinary, ₱ box	25	@	60
Plums, large, ₱ ton	15 00	@20	00
Plums, large, ₱ crate	50	@	65
Plums, ₱ box	25	@	50
Plums, Cherry, ₱ drawer	—	@	—
Raspberries, ₱ crate	—	@	—
Raspberries, ₱ chest	5 00	@	6 00
Strawberries, Longworth, ₱ chest	7 00	@	8 00
Strawberries, Large, ₱ chest	2 50	@	3 50
Watermelons, ₱ 100	4 00	@15	00
Whortleberries, ₱ lb	5	@	7

Dried Fruits.

In cured and evaporated fruits now coming forward, the firmness of the market for apricots remains a prominent feature. Despite the reports ground out in the interests of a few buyers, who were trying to shape values in their favor, predicting with great emphasis early in the season that there would certainly be a break in prices for this fruit, the market has not receded a particle, being stronger at this date, if there is any difference to note, than at the opening, and all points have been passed where there was a possibility of any weakness being developed. Most of the crop has been marketed. Holdings in first hands, especially outside of the Los Angeles section, are so light that it would be folly to attempt to bear the market at present, and no efforts are being made in that direction. The Rural Press has not been a party to any such scheme to mislead growers, as those interested in the market and who have watched these columns can attest. The apple market is easier for evaporated, owing to increasd supplies and less urgent demand. Few sundried Apples have yet been received, and these mostly sliced. Peaches are in fair request, but market is easy in tone, the crop being large and offerings are beginning to be liberal. Nectarines are hardly quotable, very few being cured, but the white variety is in good request, choice commanding about 7@ 7½c, the shortness of the Apricot supply favoring the sale of this fruit. Pears and Plums have not yet appeared in noteworty quantity. Pears will be scarce. Market for evaporated halves will likely open at not less than 8@10c for choice to fancy. Plums are expected on market in wholesale quantity at an early day. Pitted are quoted at 4½@5½c, but values are not yet very well defined. Prunes of 1898 yield have been nearly all closed out. New are expected on market soon, and prices for new crop will likely rule about the same as are now current on old.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	9½	@	11
Apricots, Royal, fancy	11½	@	12½
Apricots, Moorpark	13	@	14
Apples, in 50-lb. boxes, rings, pressed, fancy	—	@	—
Apples, 50-lb. boxes, rings, pressed, fair to good	7	@	7½
Figs, White, fancy pressed	—	@	—
Peaches, unpeeled, good to choice	6	@	7½
Peaches, unpeeled, fancy	—	@	—
Peaches, peeled, in boxes	10	@	12
Pears, unpeeled Bartletts, halved, fancy	10	@	—
Pears, halved, unpeeled Bartletts	8	@	—
Pears, quartered, unpeeled Bartletts	—	@	—
Plums, pitted	4½	@	5½
Prunes, in sacks, 40—50's	7	@	—
50—60's	4¾	@	5
60—70's	3¾	@	4
70—80's	3	@	3¼
80—90's	2¾	@	3
90—100's	2¼	@	2¾
110—130's	2	@	2¼

Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	3¼	@	—
4 sizes San Joaquin and Northern	3	@	—
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4	@	5
Apples, quartered	4	@	5
Figs, Black	2	@	3
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

The dried fruit market on the Atlantic side, according to mail advices of late date from New York, is in following condition:

Unusually light stocks of evaporated apples remain in first hands, but demand is small, and confined to jobbing sales. The quality of the fruit is generally unattractive and this adds to the lack of interest. We hear of offers to sell futures at a little less money than was named a week ago, but not much business has resulted. Chops and waste generally dull; some unsound stock is offering at inside rates without finding custom. No new Southern apples coming this way as yet, and the prices at which they will open are quite uncertain. Less interest in raspberries of late and the feeling is a shade easier. Huckleberries inquired for and firm; a few packages of new are to arrive in a few days. Old cherries practically gone; small lots of new Southern have sold at 9½c, but the demand for them is not important. Old blackberries are quiet and unchanged; it looks as if the first lots of new would sell at about 5@5½c. California peaches and apricots have been pretty well cleaned up, and new apricots are starting in firm, say at 11¼@12c for such lots as have already arrived. Quite a good many prunes are left and the market for them is very dull; the stock is mostly of 40s and 50s, and if buyers would talk on round lots they would be met at easier prices. The sales making are at 7¼@8c for 40s in 25-lb. boxes, 6¼@ 6¾c for 50s, 5½@5¾c for 60s, and the smaller sizes down to 3@3½c for 50-lb. boxes and bags. Crop advices are very favorable for peaches, pretty good for prunes, and it looks as if there will be more apricots than seemed probable some time ago.

Apricots, Cal. Moorpark, 1898, per lb	13	@	15
Apricots, Cal. Royal, 1898, per lb	12	@	13
Peaches, Cal., 1898, unpeeled, per lb	9	@	12
Prunes, Cal., 1898, per lb	3	@	8

Raisins.

The market is bare of 2-crowns and standard Pacifics. Stocks of 3-crown Pacifics bid fair to be soon exhausted. The higher grades of loose Muscatel are still in good supply and are offering at unchanged figures.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—	@	—
Dehesa Clusters, per box	—	@	—
Fancy Clusters, per box	—	@	—
London layers, 3-crown, 20-lb box	—	@1	20
London layers, 2-crown, 20-lb box	—	@1	10
Valencia layers, ₱ 20-lb box (Usual advance for fractions.)	80	@1	00
Loose Muscatel, 4-crown, ₱ lb	5¼	@	5¾
Loose Muscatel, 3-crown	4¼	@	4¾
Loose Muscatel, 2-crown	—	@	—
Loose Muscatel, ungraded	—	@	—
Sultanas, unbleached	—	@	—
Seedless Muscatel	—	@	—
Thompson's Seedless, unbleached	—	@	6
(Above prices for loose raisins are for 50-lb boxes.)			
Dried Grapes	2½	@	2¾

Citrus Fruits.

Oranges are in such slim supply as to be hardly quotable. Lemons continue plentiful, with market easy at former range of values. Limes are in liberal stock and cheap.

Oranges—Navels, ₱ box	—	@	—
Mediterranean Sweets	—	@	—
Late Valencias	2 00	@	4 00
Lemons—Cal., select, ₱ box	2 50	@	3 00
Cal., good to choice	1 50	@	2 00
Cal., common to good	75	@	1 50
Limes—Mexican, ₱ box	4 00	@	4 50
Cal., small box	75	@	1 00

Nuts.

There are no prices for Almonds or Walnuts, the market being bare of old and values for new have not yet been fixed. It is now reported that the Almonds of the Davisville Association were not sold, but simply an agency for their disposal was established. Peanuts are in light supply, both imported and home product, and market is firm at the quotations.

California Almonds, paper shell, ₱ lb	—	@	—
California Almonds, soft shell	—	@	—
California Almonds, hard shell	7	@	9
California Almonds, shelled	—	@	—
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	—	@	—
Walnuts White, Cal., standard	9	@	10
Chestnuts, Cal. Italian	—	@	—
Peanuts, Cal., fair to prime	5½	@	6
Peanuts, Eastern hand-picked	6	@	7
Pine Nuts	5	@	8

Wine.

The market is quiet with demand slow, and little remaining in first hands. The quotable range on Claret may be said to be 15@20c per gallon, with little obtainable at inside figure and not much choice enough to command the top price in a wholesale way. Saturday's China steamer took 3140 gallons and 51 cases. A steamer clearing Monday for Mexico took 4049 gallons and 12 cases. A sailing vessel manifesting same day for Hawaiian Islands carried 4455 gallons and 51 cases. Yesterday's Panama steamer had 80,000 gallons, the major portion being for New York.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	59,976	509,565	434,217
Wheat, ctls	171,831	561,709	284,251
Barley, ctls	152,344	584,449	106,221
Oats, ctls	12,045	70,111	39,535
Corn, ctls	6,625	13 640	9,735
Rye, ctls	21,736	27,019	2,035
Beans, sks	6,007	26,769	6,348
Potatoes, sks	11,491	75,767	101,054
Onions, sks	3,534	15,903	23,012
Hay, tons	3,708	17,229	17,475
Wool, bales	1,333	10,650	7,447
Hops, bales	66	612	358

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	32,160	284,963	280,128
Wheat, ctls	98,380	421,243	200,049
Barley, ctls	151,562	332,335	19,684
Oats, ctls	713	3,787	2,890
Corn, ctls	693	1,527	2,364
Beans, sks	290	1,897	3,744
Hay, bales	3,988	9,657	3,693
Wool, lbs	28,066	28,006	205,593
Hops, lbs	1,659	9,408	63,329
Honey, cases	130	207	218
Potatoes, pkgs	409	4,368	4,187

California Dried Fruit at New York

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Prunes, 3¼@8c.
Apricots, Royal, 13@14c; Moorpark, 15@16c.
Peaches unpeeled, 11@11½c; peeled, —@—c.

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The Gigantic Vertebrate Fossils of Wyoming.

A party of geologists from the Northwestern University, headed by Professor A. R. Crook, is now in Wyoming for the purpose of exploring the fossil fields of that State in the interest of science, at the invitation and expense of the Union Pacific Railroad Co., to whose passenger agent, E. L. Lomax, this paper is indebted for the accompanying cuts. The party is accompanied by Professor W. C. Knight of the Wyoming State University. Wyoming has been referred to as the geological wonderland of the world. Within its borders are the most extensive fossil-bearing terranes known to science, and here are found the most gigantic specimens of land animals that ever had an existence since the world began, beside which the largest elephant of modern days becomes a pigmy. The largest of these fossil colossal animals was discovered last August by W. H. Reed of the Department of Geology of the Wyoming State University, ninety miles northwest of Laramie city. It was a Dinosaur, measuring 130 feet in length, 35 feet in height at the hips and 25 feet at the shoulders, the petrified skeleton of which,

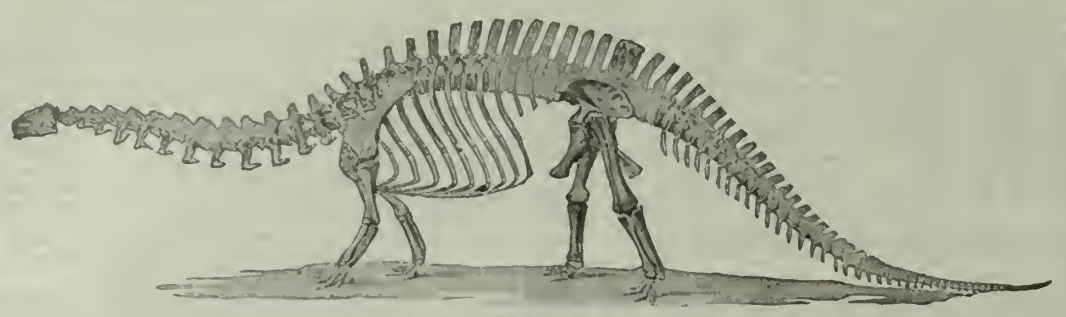


Fig. 1.—Restoration of Brontosaurus Excelsus (Marsh). From Aurora, Wyoming. In the Yale Collection.

weighed in life 80,000 pounds, being surpassed in this respect 50,000 pounds by the new discovery. This animal, the skeleton of which is represented in Fig. 1, was 25 feet high at the hips and 16 feet at the shoulders. Fig. 2 illustrates a section of the vertebra of the animal and is 44 inches in height. Its femur is more than

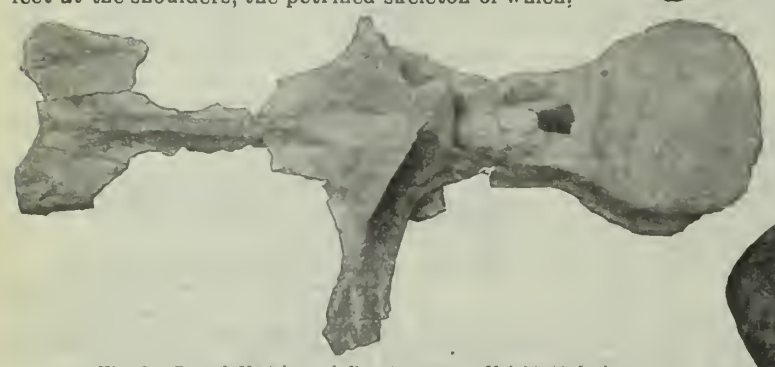


Fig. 2.—Dorsal Vertebra of Brontosaurus. Height 44 Inches.

it is thought, will weigh 40,000 pounds. In the Yale museum at New Haven, Conn., is a gigantic Brontosaur, an animal of a kind similar to the Dinosaur above referred to. This also came from Wyoming and from the same formation—the Jurassic. The skeleton was restored by Professor Marsh in 1891. It was 70 feet in length and is presumed to have

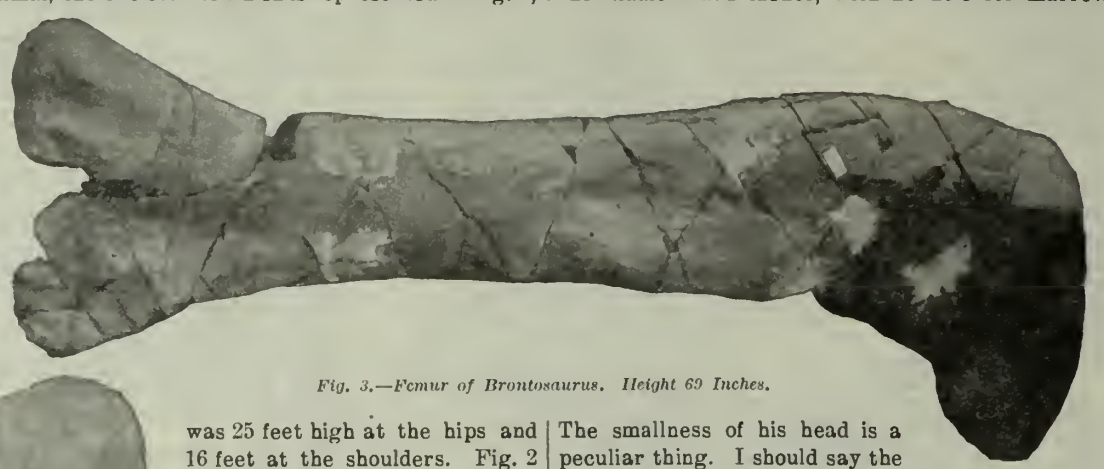


Fig. 3.—Femur of Brontosaurus. Height 69 Inches.

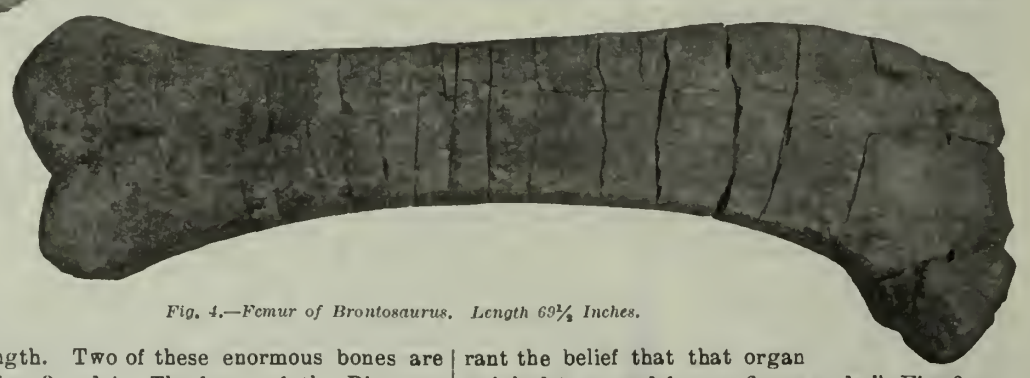


Fig. 4.—Femur of Brontosaurus. Length 69¾ Inches.

6 feet in length. Two of these enormous bones are shown in Figs. 3 and 4. The femur of the Dinosaur recently discovered is 8 feet in length. The body of the Dinosaur is comparatively short but very thick. Mr. Reed says of the animal, the skeleton of which he is restoring: "An accurate idea of the Dinosaur is out of question. The ribs of this animal are about 9 feet in length, his tail 60 feet, his neck 30 feet, his abdominal cavity with lungs and entrails removed would have formed a room 34 feet in length, 16 in width and arched overhead probably 12 feet in height, a space in which forty people might be seated. A round steak from the ham of the animal would have been 12 feet in diameter and would have had a solid bone in the middle 12x14 inches, with no hole for marrow. The smallness of his head is a peculiar thing. I should say the head of this colossal Dinosaur was not larger than a ten-gallon keg. He must have been a very sluggish creature, as his brain cavity would certainly not warrant the belief that that organ weighed to exceed four or five pounds." Fig. 6. represents the reconstructed skeleton of the Acerathe-rium Tridactylum, a huge mammal having three toes to each foot. There were also camels, dogs, cats, rhinoceroses, elephants and monkeys, great sea monsters, fish, etc., and fossil leaves prove conclusively that in the early ages Wyoming was clothed with trees of tropical and semi-tropical verdure. Wyoming has no equal as a fossil field, and while expedition after expedition has taken away material by the carload, the fields are large and hundreds of square miles have never been visited by geologists. The numerous mountain ranges have tilted the rocks and erosion has cut deep valleys leading from them, which makes it possible to examine the formation in detail.

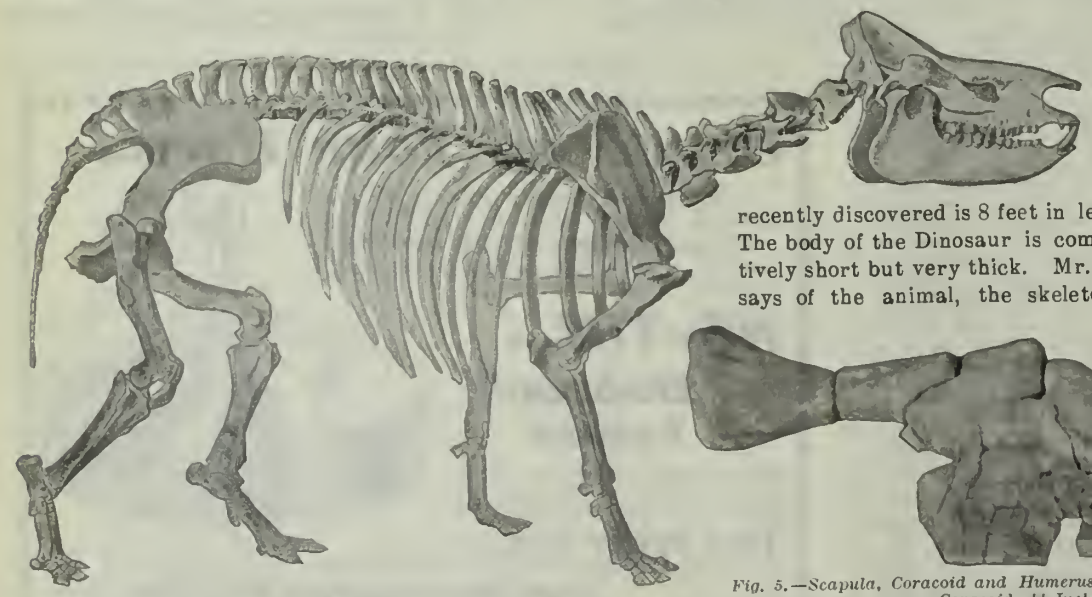


Fig. 6.—Restoration of Acerathertium Tridactylum (Osborn).

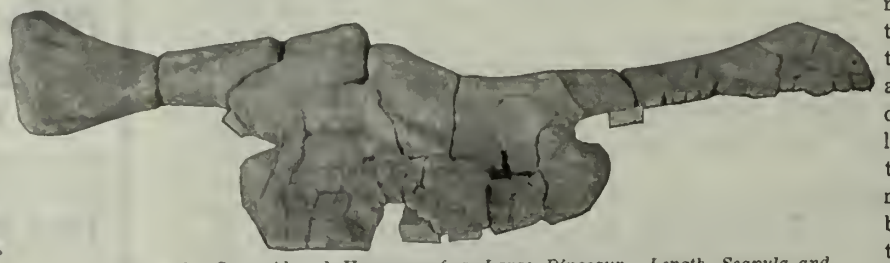


Fig. 5.—Scapula, Coracoid and Humerus of a Large Dinosaur. Length, Scapula and Coracoid, 44 Inches; Humerus, 42 Inches.



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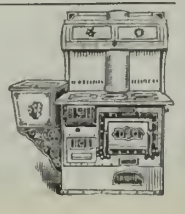
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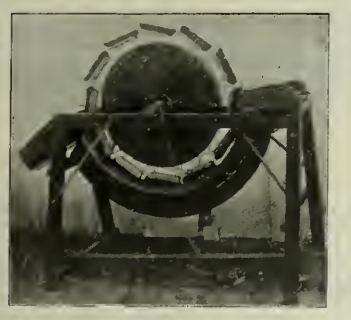
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The Black Wood Acacia in Southern California.

W. S. Lyon, ex-State Forester, gives the Los Angeles *Times* an interesting paragraph on the success of the black wood acacia planted along a city street on his advice about a year ago. For the first year they received excellent attention, in the way of water, cultivation and protection from errant donkeys, predatory cows, and the peripatetic and periodic droves of sheep down that street en route to the shambles.

Since then these trees have been thrown entirely upon their own resources. Before fairly out of leading strings they have had to stand the shock of the two driest consecutive seasons that have ever afflicted southern California. Notwithstanding, they are every one alive, thrifty and evidencing a good, sturdy growth. In very many localities the common blue gum, even of considerable size, has died out during this protracted drought; nor would the loss of all of these young acacias have been a cause for condemning their utility as street trees, when subjected to so crucial a test in every tree infancy.

The very conclusive evidence of success to be seen here, confirms and emphasizes the claim made by the writer some years ago that the black wood acacia (*A. Melanoxylon*) was facile princeps among evergreen trees for sidewalk use.

A most perfect specimen — a tree rounded out to the fullness of tree's estate—stands almost at the entrance of the old Richardson place in Alhambra. More accessible to the many, and though far inferior to the above, yet withal a very fine subject, is one that stands directly in the gravel walk, perhaps 15 feet from the middle Hill-street entrance of Central Park.

Any one interested in seeing this tree to advantage is warned to use all haste and get a view before the man with the ax, who pervades Central Park, casts his baleful eye on its symmetrical lines, and then it can hardly hope to escape the vigorous fate that lately overtook the unoffending box elders, ashes and maples, that were once the crowning glory of this park. The planter of black wood acacias, unless expert, must be dependent upon the knowledge and honesty of his dealer. The young nursery tree is very dissimilar from the old subject. The rudimentary leaves which adorn the young plant practically disappear in time, and leave nothing but the greatly expanded leaf stalks (phyllodia) to take their place.

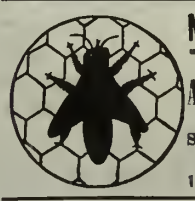
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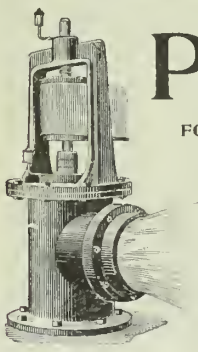
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San Jose Grange.

The last meeting of San Jose Grange was held in Hale's hall, with Worthy Master Leigh in the chair, states the *Mercury*. On account of the busy season among the orchardists and farmers the attendance was not large, but the session was a very interesting one.

The subject of prunes was under discussion. One member reported that he had sold his crop for $35, and another was considering an offer of $32.50 for his crop.

In connection with this the reason of the slow demand for prunes was considered. Several wholesale dealers in the East were named who five years ago bought several carloads in a season, and now only purchased a few hundred pounds. These men had assured their friends in this county that if they were given the assurance that the price they were buying for was the minimum price, they would not be afraid to buy and would handle the fruit as formerly. This could easily be accomplished if some organization such as the Pacific Fruit Growers' Association was on a successful basis and could control the crop.

Another question that was discussed with considerable feeling was the alleged apathy among the residents of the valley on public questions, and which makes possible much of the trickery and double dealing on the part of public officers and of men who are conducting institutions that cater for the patronage of the public.

Master Leigh averred that our executive officers are weak in the execution of the laws and in bringing to justice the law-breakers, without respect to whom they were.

Overseer Coates said that one of the great curses of the nation was the recording of so many laws on the statute books which are not enforced. This makes the people careless, and they lose respect for their laws.

At the next meeting the importance of raising and marketing the best crops of all kinds will be discussed.

Next Friday the Grange has been invited by Mr. and Mrs. Thomas Baker, who live west of Los Gatos, to a basket picnic at their home. They will be joined there by the Los Gatos Grange.

Said to be a Cure for Boils.

To the Editor:—As a reader of your valuable paper, I desire to inform all who may be afflicted of a recipe, which is the most valuable I have ever found for the cure of boils on people. I am 56 years of age, and can verify my statement, for I have given it to a great many people who tried it and found it satisfactory:

Hanford, Cal. L. N. Gregary.

THE RECIPE.

Iodide of potash, ½ ounce; corrosive sublimate, 4 grains; fluid ext. sarsaparilla comp., 3 ounces; tincture aconite root, ½-dram; simple syrup to make 6 ounces. Mix. Tablespoonful three times a day after meals.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING JULY 25, 1899.

629,649.—Match Safe—J. Bond, Coulterville, Cal.
629,499.—Treating Hides—J. R and J. S. Brown, Alameda, Cal.
629,545.—Vessel Cover—B. G. Call, S. F.
629,742.—Self-Draining Vessel—Helen J. Carden, Bakersfield, Cal.
629,757.—Correcting Compass Errors—J. Christensen, S. F.
629,661.—Pew Rope and Lock—Clark & Watson, S. F.
629,570.—Chain Propeller — L. Kohn, Oakland, Cal.
629,452.—Wheeled Scraper—G. W. Lovejoy, Tehachapi, Cal.
629,581.—Carburetor — F. L. Martenetti, Chico, Cal.
629,460.—Cane and Umbrella—J. R. Nagell, Everett, Wash.
629,461.—Power Transmitter—R F. Nichols, Altura, Cal.
629,602.—Elevator—R. H. Postlethwaite, S. F.
629,523.—Box Fastener and Seal—W. C. Rarig, S. F.
629,701.—Gas Generator—J. M. Schofield, Stockton, Cal.
627,474.—Harrow—W. Seekier, Corvallis, Or.
629,725.—Water Gate—P. K. Shaffer, Redlands, Cal.
629,406.—Lamp Hanger—Thorp & Normart, Fresno, Cal.
31,293.—Design for Bandage—D. D. McClure, Portland, Or.

Notices of Recent Patents.

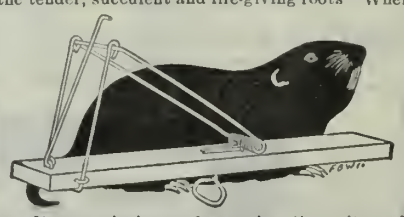
Among the patents recently obtained through Dewey, Strong & Co.'s Scientific Press U. S. and Foreign Patent Agency, the following are worthy of special mention:

Box Fasteners and Seals.—W. C. Rarig, San Francisco, Cal. No. 629,523. Dated July 25, 1899. This invention relates to a device which is especially designed for the fastening and sealing of boxes and similar containers. It consists of two plates, one fixed to the box having an upwardly projecting free end with a beveled lug or lugs formed upon said end, and the other fixed to the cover of the box and movable therewith approximately in the plane of the upper end of the first-named plate, said movable plate being slidable over the companion plate, and having an opening adapted to engage the lugs of the lower plate. A tongue is formed within said opening which acts as a guide for the locking lugs and has a fastener to keep them in place after engagement. In conjunction with this a destructible seal is employed with means for enclosing it between the plates, said plates having openings through which the seal is exposed when they are interlocked. The opening and separation of the fastening destroys the seal in every case.

Device for Correcting Compass Errors.—Jorgen Christensen, San Francisco, Cal. No. 629,757. Dated July 25, 1899. This invention relates to an apparatus which is designed for the correction of compass errors, such as deviation which may occur either by reason of masses of iron about the vessel or its cargo or from other source, and the device is also designed to obtain accurate bearings of or from any terrestrial object or celestial body. It consists of a counterbalanced suspended compass card turnable upon the central point and a surrounding ring within which it is suspended, said ring being also suspended in a compass bowl and having an indicator in line with the ship's head. A central disk is pivoted upon the compass plate and is turnable independently thereof. Arms project radially in opposite directions from the disk and have central radial lines. A light deflector is pivoted at right angles with said arms and turnable about its pivots and a vertical bisecting line is marked upon the deflector to coincide with the lines upon the arms.

THE GOPHER NUISANCE.

Many of our readers are suffering now as they have suffered in the past from the inroads and ravages of that industrious little pest, the gopher. It is not merely the cutting off the roots of vegetation that causes most concern, but it is the infinitely more far-reaching and serious damage to all kinds of growing trees. The region of orchards, wind breaks, shade trees and elsewhere about the place, provide favorite haunts for the gopher. He seems to enjoy above all things to burrow under a live, healthy young tree and make his home among the tender, succulent and life-giving roots When



you discover the home of a gopher thus situated, just keep your eye on that tree: it is doomed as sure as fate. In a little while, if the gopher is as industrious as usual, the leaves will begin to wilt, then fade and finally fall Next season the tree fails to put forth its leaves entirely, and dies outright. If you were to dig down under the tree you would discover the cause of the trouble. You would find that the roots, and more particularly the tender rootlets, of the tree had been completely gnawed and cut to pieces

Nor does this end the damaging ability of the gopher. Grain lands and pasture lands suffer in almost like proportion. Is there a remedy for the evil? Yes; don't have the gophers. From their nature and habits gophers are not easily trapped and many such attempts have in the past resulted in failure Our attention has been called to a trap, however, which is a pronounced success largely because it is the result of large experience and close study of the life and habits of the gopher. We refer to the "Out-o'-Sight" gopher trap, manufactured by the Animal Trap Co of Abingdon. Illinois, and which is advertised in these columns. Write these people for circulars, prices, etc.

Breeders' Directory.

Horses and Cattle.

HOLSTEINS—Winners of every 7days' butter contest at State Fair 1898 1st & 2nd for aged cows, 4-yr., 3-yr. & 2-yr.-olds; *21 Jerseys & Durhams competing.* 4th year my Holsteins have *beaten* Jerseys for butter. Stock for sale; also pigs. F. H. Burke, 626 Market St., S. F.

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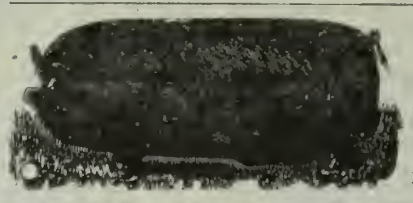
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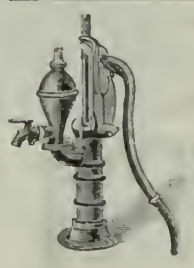
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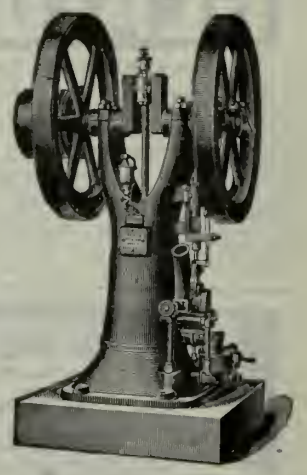
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FRUIT MARKETING.

The Crocker Contract.

Readers are already familiar with the general terms upon which Henry J. Crocker of San Francisco proposes to buy all the wine grapes of California for seven years, providing, however, that he may terminate the contract at any time if he should find himself unable to secure at least 80% of the wine grapes of the State. Objections to this reservation are met by the statement that Mr. Crocker is bound to pay $12 and $14 a ton for their grapes, but he can only do this on condition of being in position to artificially uphold the price to the dealers, which can only be accomplished by his obtaining and maintaing the stipulated control.

The Contract.—The following is the proposed contract, omitting only the introductory description of the location of the vineyard and the closing arrangement for signatures. The grape grower is designated as the "party of the first part," and Henry J. Crocker as the "party of the second part:"

That the said party of the first part hereby sells to the said party of the second part, and the said party of the second part hereby buys from the said party of the first part, all the wine grapes which the said party of the first part may produce during the seven successive vintages from and after the date hereof.

The said party of the first part shall and will, during the whole of the term thereof, promptly harvest and deliver the grapes grown on said land, when ripe, in boxes, to the order of the said party of the second part, at such points as the party of the second part may designate from time to time, within a radius of five miles of the property hereinabove described, and the party of the second part agrees to receive such grapes in quantities of not less than 5% of any one variety each day and to pay cash for same at the close of the crushing season at the winery where such grapes are made into wine.

The price for all grapes so delivered shall be as follows:

For ripe, sound, merchantable wine grapes, except Malvasia and Mission, containing not less than 22° sugar, according to Balling's scale, at 60° F., crusher test, $14 per ton at point of delivery.

For ripe Malvasia and Mission grapes of the same standard, $12 per ton.

For grapes falling below 22°, the price to be reduced 50 cents per ton for each degree or fraction of a degree of sugar below 22° (Balling) and down to and including 20°.

For grapes falling below 20° sugar (Balling), the price to be reduced $1 per ton for each degree or fraction of a degree of sugar below 20° (Balling) down to and including 19°.

For grapes below 19° sugar (Balling) the price shall be 50 cents per ton for each full degree of sugar contained therein, according to Balling's scale.

For second-crop wine grapes the price shall be 75% of the foregoing scale for first-crop grapes.

For damaged grapes, not sound or merchantable, or such as will not make good wine, but suitable for distilling, $7 per ton.

In case of dispute between the parties in regard to the quality of the grapes tendered, such dispute shall be settled by arbitration, each party selecting one arbitrator, the two so selected to choose a third in case of disagreement, the decision of a majority to be final.

It is hereby covenanted and agreed by and between the parties hereto, that at all times during the said term of seven years it shall be lawful for the said party of the second part, his executors, administrators and assigns, and there is hereby granted by the said party of the first part to the said party of the second part, his heirs and assigns, the right from time to time, and at any time, either in person or by any of his agents or employes, to enter upon and pass over and to cross and recross the said land, and every portion thereof, for the purpose of viewing the vines growing on the said land, and of estimating the quantity of grapes to be grown each year thereon, and for any other purpose necessary to protect and preserve the rights and interests of the party of the second part herein and hereunder; *provided*, however, that in exercising the right of entry and way over said land hereby granted, no unnecessary damage shall be done on the said land.

And it is further covenanted and agreed between the parties hereto that in the event that the party of the first part shall fail, at any time during the term of this contract to promptly harvest or deliver, as agreed, the whole or any part of any year's vintage hereby contracted for, then the party of the second part shall have, and there is hereby granted to him, his heirs and assigns, the right at any time, in person or by his agents and employes, and with all necessary animals and vehicles, to enter upon said land and take possession of said crop of grapes and harvest and take the same and carry it away, without let or hindrance, from the said land of the party of the first part, his heirs or assigns; *provided*, that for any grapes so harvested and taken by the party of the second part, he will pay to the party of the first part the prices aforesaid at the time above stipulated, less all reasonable expenses incurred in the harvesting, taking and transportation of the same.

And in furtherance of the purposes hereof the party of the first part hereby grants to the said party of the second part an interest in the said land in so far and to the extent that the right to said crops of grapes and the right to enter upon said land for the purposes hereinbefore expressed may be concerned.

It is expressly understood and agreed that this contract and grant, and all the rights hereunder, are made and are subject to the right to terminate the same by the party of the second part, whenever he shall, under similar contracts with other grape growers, be unable, without litigation, to purchase and secure and have delivered to him, in any year during the term thereof, at least 80% of the wine grapes grown within the State of California; and in such event the party of the second part may, upon thirty days' notice in writing, terminate this contract and grant, and thereupon the parties hereto shall be wholly released herefrom and from all obligations hereunder, and be restored to all their rights and with like effect as if the same had not been made.

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We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

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Fruit Prices at Various Points.

VENTURA, Aug. 2.—The dried apricot market is exceedingly strong at present. Buyers are offering freely 10 cents per pound for dried fruit. This morning there was one sale of some 35 tons of medium apricots at a fraction over 10 cents. The Johnson-Holbrook Co., through their special representative — Patton — have purchased between 30 and 35 carloads, or about 350 tons, of dried fruit. They have paid from 9½ cents to a slight fraction over 10 cents. Other buyers have purchased probably a total of 10 carloads. This gives a total of about 45 carloads now in the hands of dealers. The total crop in the county is a little over 100 carloads. No fruit has been sold for less than 9½ cents, except one carload early in the season for 8⅞ cents. At present the market has an upward tendency. Some growers are holding for 12½ cents.—Ojai.

YUBA CITY, Aug. 4.—The almond crop of this locality is now about all contracted for, as this week representatives from several firms circulated among the growers and bought the greater portion left from the sale recently reported. Those who sold this week were C. R. Boyd 20 tons, Mrs. Mary Smith 20 tons, G. W. Carpenter 10 tons, Campbell estate 4 tons, Peter Engel 5 tons, H. C. Clark 2 tons. Rosenberg Bros. & Co. purchased the Boyd crop and J. K. Armsby the balance. We understand that the price was 10 cents per pound for IXL, Nonpareil and Ne Plus Ultra varieties and and 7½ cents for Languedoc and Drakes.—Farmer.

SAN BERNARDINO, Aug. 5.—Apricots have touched the top notch of 10 cents a pound. The price is the highest that has been paid in years, and only a few growers will get the benefit of the figure, for most of the "cots" have been sold or shipped, the price varying from 8½ to 9½ cents per pound. But Bloomington growers waited until the last, and the buyers came to the 10-cent limit Thursday, and purchased. All the apricots left in Bloomington went at 10 cents, and the buyers also furnished the sacks. They were bought for export and will be shipped to England. The peach harvest is now in full swing. From $25 to $30 for 2¼-inch fruit for canning has been freely contracted, while now the buyers are offering from $15 upward for all that are left, below that size.—*Sun.*

POMONA, Aug. 2.—The Pomona Deciduous Fruit Growers' Association sold its apricot pits for $5.50 per ton. The kernels of the pits are sent to Germany for manufacturing purposes.—*Times.*

SAN JOSE, Aug. 5.—Dryers and growers of prunes are not agreed as to figures in many cases. Dryers talk $25, $26 and $28 as about right, while growers talk all the way from $30 to $40. We know of sales at $30, $32 and $35. The last figures were made by a dryer who thoroughly sampled the whole orchard and named the price. We believe Eastern dealers did not understand the general shortness of fruit for drying, but the pretty general refusal of a 3-cent basis for prunes has been forcing the truth on them. With any concert of action the price would be 3½ cents at least, and when the supply and the demand are fully understood the dealers must yield.—*Tree and Vine.*

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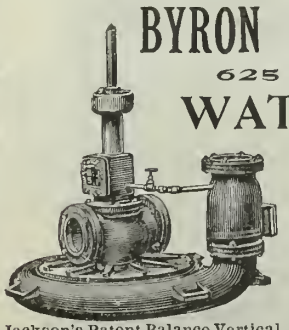
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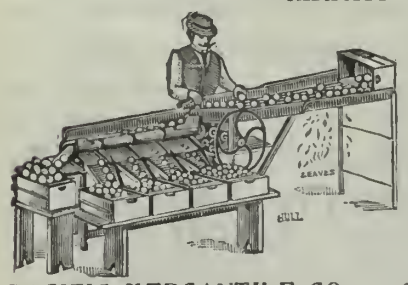


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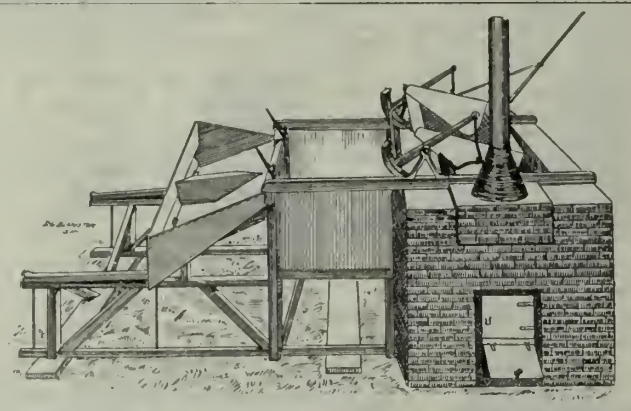


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Vol. LVIII. No. 8. SAN FRANCISCO, SATURDAY, AUGUST 19, 1899. TWENTY-NINTH YEAR. Office, 330 Market Street.

Forest Destruction and Torrent Ruin.

We begin on another page of the PACIFIC RURAL PRESS the publication of a very notable paper by an eminent authority on the subject of forest destruction and its effects. This publication is very timely, because the California people are awake and interested in this class of subjects as they have never been before. It is true that the interest is not of recent origin, but, as with other like issues of wide-reaching importance, the present wide attention is due to declaration and suggestion continually urged for years now impressing the importance of the matter upon the public mind. The agitation which commanded the attention of the Government and led to the establishment of forest reserves bears fruit now in popular attention and interest. No doubt the interest has been hastened and quickened by the recent years of drouth, which have caused a keener appreciation of the value of water supply, but in its present state the question is broader even than the irrigation aspect, as the whole is greater than any of its parts. For this reason we are glad that Dr. Manson has prepared the impressive statements which we print upon another page, and that they are illustrated by the pertinent photo-plates which appear herewith. We have all heard for years of the terrible effects of denudation of European watersheds, the destruction of fertile valleys, the ruin of production and trade and all the sad consequential evils of deforesting the sources of streams. The present presentation of the matter will bring to all a more realizing sense of the evil which has been done and the criminal folly of allowing its repetition in this new and rich land. We have no doubt that this will be the conclusion of all our readers when they have studied these views and recalled many like them which they themselves have seen, and a resolution to do what is wise to forfend their recurrence.



Debris in the Arangua, South Slope of the Caucasus



Middle Reaches of the Tirek, North Slope of the Caucasus.



Upper Region of the Tirek and North Slope of the Caucasus.



Track of Torrent Below Burned-Over Forest, Sierra Nevada.



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E. J. WICKSON.....Horticultural Editor.

San Francisco, August 19, 1899.

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BUSINESS ANNOUNCEMENTS.

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The Week.

We are passing along in the second half of August and the later fruits and later field crops remind one of the advancing season. The signs are now and then quite expressive of rain, and no one will be surprised if the rains should come early this year. Fortunately, however, for the raisins, prunes and hops, there is very little danger of water at once. August for 28 years has been the dryest month of the whole circle; the average being only one hundredth of an inch, and the greatest ever known only nine hundredths of an inch. This is practically no rain at all. Nor does September promise much water, for during 27 years the average has been twenty-seven hundredths and the greatest one and five hundredths. We shall probably have quite a stretch still of dry weather and then it may come down plentifully. It is quite desirable at the south that there should be abundant early rains. Irrigation water is at low ebb in many places in spite of all development work which has been done, and a good drink will help the citrus trees wonderfully with the coming crop.

Wheat is in a little better shape on the speculative side, for the Government reports indicate a deficiency in spring wheat and a bear movement cannot hold it down. For shipping wheat also a little better price has been paid. Barley is still going abroad, something like 20,000 tons in a fortnight—or say $400,000 worth—and the price for shipping barley is a little improved, while, however, feed barley is lower. Red oats are selling better as a substitute for the high-priced white oats. Corn is easier with free arrivals from the East and a drop in Eastern prices. Rye is still being taken for Europe. Hay is not in good shape at the moment. There seems to be lack of storage and low values through forced sales. Millstuffs are unchanged, except ground barley which is lower. Meats are also stationary, with hogs too high for packers. Butter and eggs are both feeling better without marked change. Choice fruit is selling well, but there is a crush of lower grades which is cured by dumping. Dried apricots are very strong, but buyers are holding aloof from peaches. Prunes and raisins are cleaned up and the outlook better. Potatoes and onions are lower than last week.

The Montana wool season has come to a close with a record of 2,450,000 pounds of wool received. Prices ranged from 14½ to 18 cents per pound.

Floral Facts and Fancies.

We employed a leisure hour and an available column not long ago with some reflections upon matters somewhat sentimental, perhaps, connected with hearts, homes and horticulture. It may not be unwise to allow the thought to run in channels not strictly or directly practical, at the height of the dry season, when all except those who are pushed by hops, fruit and other midsummer crops have a little leisure for musing in the shade. Continuing, then, along the lines of horticultural sentiment, we remark that it should be a matter of congratulation that the ornamental branches of horticulture are now advancing as never before in the world's history. Never before did flowers command such universal admiration or enter so fully into the life of all classes of our population as they do at present.

Most gratifying progress is being made in all floral lines. Flowers are coming into unexampled popularity. The statistics of the growth of commercial floriculture at the East during the last decade are almost incredible. The patronage of flower shows in at least one hundred Eastern cities and towns, the prevalence of floral decoration of the class, the improvement of home gardens, are all significant of the advance of floriculture in public favor. Certainly the American people now talks more and thinks more and does more with flowers in a day than it did in a month two or three decades ago. Then the flowers were the inspiration of the poet, the token of the lover, the consolation of the invalid, the companions of the dead. Now, without losing any of these kindly offices, they have become the joy of the strong, the delight of the active. They adorn the desk of the counting room, they embower the bosom of the belle, they grace the coat lapels of the whole masculine element, from statesman to street sweeper. Flowers everywhere and all the time is, in a word, the Eastern rule, and acres of gardens followed by acres of glass houses can hardly meet the demand.

In California, as we all know, flowers have always been popular and their significance as exponents of our favoring climate has been fully recognized. But even here the commercial idea has somewhat obscured the real value of the peerless blooms. The real estate estimate of flowers is perfectly logical and legitimate, but it is not a very high one, except, perhaps, in the figures for which land and climate have sometimes been sold.

It is fitting now that there should be disseminated a higher and truer conception of floral worth and beauty, and a better knowledge of what are the best flowers and how best to grow them. It must be acknowledged that grand and continuous as is the bloom which our benign climate and generous soils give to even the most careless grower, our knowledge of floricultural art and our practice thereof are still inferior. If such intensive culture were given here as is practiced in the most advanced distant regions, the improvement of our garden flowers would carry them so far beyond their present state that we could hardly recognize them.

There is every reason why we should advance in floriculture in California to the ends indicated. We have received from all parts of the world an endowment of skill in floral arts and of floral sentiment. In the ranks of our varied and enlightened population we have flower lovers and skilled culturists from the whole breadth of the old world from Ireland eastward to Japan. We have those who have heard flower lore in all the tongues of men. Nowhere on earth is there such a gathering of devotees to floriculture. We have also the choicest plants from the utmost confines of the planet. To these rich legacies we add American aptness, skill and ingenuity: beneath them all our soil; above them all our sky. Where in the world should the art of floriculture attain higher development or produce grander masterpieces.

As the bent of our energies is so strongly in the industrial line, it might be expected that in commercial floriculture our earliest triumphs should come. Thus, indeed, it is. Our commercial florists have shown blooms which experts have pronounced beyond comparison with exhibition flowers shown elsewhere, and have thus blazed the way for the rest of us. Our seed growers are fast commanding the trade of the country, and it is conceded that the whole United States and possibly Europe will in the future grow its best sweet peas from California seed. Flowering bulbs of some kinds are being grown by the carload for distant sale, and calla roots of California growth are so immense in Eastern eyes that they discussed using them for potatoes, until some had the temerity to taste them. The long-distance shipment of cut flowers is apparently awaiting only a satisfactory preservative process during transit, and considerable supplies are sent as far as Chicago from time to time without any special protection. Thus our commercial trend waits upon floriculture. It is not this, however, that we would urge. It is the growth of the flower for its own sake and for the love of its ennobling influences upon our thought and lives, to which we would especially direct attention.

But can one thus be moved by floricultural fervor without interference with the sterner duties of life? Most assuredly. It does not call for vested time nor divert an earnest mind from its purpose. It is with the amateur merely a pastime for leisure hours, and if it withdraws attention from less worthy sports, recreation and gossip, surely the community as well as the individual is gainer. It has been already demonstrated by California experience that fruit growers can pursue floriculture as a pastime and reap real enjoyment of it. The same perceptions which make a person an expert in fruits make also an expert in flowers, and many a one turns from an enjoyment of his peaches to admiration of his roses.

One of the most delightful things, too, about the awakening of floral interest in the home is the fact that it becomes a common joy to all that are in the house. There are homes in which descriptions of the newest roses are discussed to the utter exclusion of politics, war and millinery. Flowers are called by their true names as esteemed acquaintances would be and the children name them as glibly as their playmates. The flower knows its own way to the human breast; give it but opportunity and it will enter and dwell there.

One of the chief needs of this very practical age is to cherish influences which will soften, elevate and ennoble manhood and womanhood. Amid our wonderful achievements by hand and head we are prone to forget the heart work, which is one of the greatest of the humanities. Many agencies minister to the awakening of purer, truer sentiment among us, and home improvement is one of the most potent. Let it be our encouragement, and our sublime incentive, too, that every effort we make to beautify our homes and to promote the love of flowers beyond the borders of our homes will not only add to the visible charms of our beloved State, but will tend to develop and elevate our own manhood and womanhood and render Californians more worthy of California.

The Wine Question.

The Crocker proposition to the wine grape growers is still the uppermost subject of discussion in grape circles. Meetings held in the grape districts are favorable, and local canvassing is usually provided for. It is, however, quite uncertain as yet whether 80% of the crop can be got together, even on a basis which seems so promising.

It seems exceedingly hard to get such a percentage of any crop concentrated for any purpose whatever. We doubt if it has ever actually been done in this State. The raisin combination may have done it but no other effort even approached it. The amount of caution and conservatism in the producing classes is notable. In this city the Chamber of Commerce seems disposed to help those who will not help themselves.

It is thought that the main objection to the Crocker proposal would ruin the small wineries, because the owners think that their plants for making wine would not be employed, and that their investment, therefore, would be unprofitable. This is one of the points that the Chamber of Commerce proposes to make plain. It is understood that Mr. Crocker will assure the producer that in each district the grapes bought will be sent to the nearest winery to be converted into wine; that pay for such service will be fair and remunerative; also that to the wine maker who has a private trade wine will be sold at prices that will enable him to supply his trade and make reasonable profits.

QUERIES AND REPLIES.

Broom Corn.

To the Editor:—Will broom corn mature in a damp climate and about in what stage do they break it, etc.? If you know of any one in the business, I would like to correspond with him.—Wm. McGrath, Watsonville, Cal.

Broom corn is chiefly grown in the low lands of the interior valley where there is moisture and heat combined to make a free growth. We have not heard of it from a location open to the ocean, nor will it do well on dry plains. The breaking is done after the brush is well formed and toughened, and before it becomes too brittle. It takes some experience to handle the crop just right. We shall be glad to have some broom-corn grower favor Mr. McGrath with a full account of how to do it, and, if he will send it for publication in the Rural, it will give all the benefit of the information.

Maple Mildew and Rose Rust.

To the Editor:—I send you a leaf and a section of one of my rose bushes, also a leaf from a young maple tree, to ask if you will kindly examine them and advise treatment. I think the maple leaf is affected by what you call in your last issue powdery mildew, and I shall treat it with sulphur. But the roses are a puzzle. The red spots show on only a few of the plants, but almost all of the roses in the rose garden are making a stocky, stunted growth, very imperfect flowers. I shall be very grateful for your advice.—Suburban, San Mateo Co.

The maple leaves you send are affected by a powdery mildew—not the same as infests apples, but one of the same group, and it should be amenable to the sulphur treatment. The roses are undergoing the several evils which California rose bushes are heir to in our dry summer. The first and most serious trouble is that which you call "red spots." It is the orange-colored rust which chiefly affects hybrid perpetuals and moss roses. It begins in the spring and keeps at it until summer, causing the leaves to fall and the plants to make a stunted growth. The parasite becomes worse as the rose becomes weaker in the dry season. The special treatment for rose rust is the Bordeaux mixture applied with a cyclone nozzle so as to reach the under sides of the leaves. It should be applied much earlier in the season, so the fungus will not have a chance to make such progress. Roses should be treated liberally during the dry season and not be allowed to suffer from fungus and drouth.

Water and Frost.

To the Editor—What effect will water have on frost? If a person could get up a system of sprinkling the trees before the frost comes in the night, or right after the frost, before the sun gets out, do you think it would save the blossoms and young fruit on the trees?—Reader, San Francisco.

The use of water upon frosted vegetation before sunrise will often prevent injury by gradually thawing out the structure so as to prevent rupture of the cells. This has been known to gardeners for many years and practiced by them.

The presence of water either in spray or flowing over the ground will prevent frost injury, providing the temperature does not fall too low. It may be effective to a temperature of 27°, if such temperature does not last long. If it does last some time or if it falls below 27°, even for a short time, the water will freeze and increase the injury to the plant if the ice forms upon it. A system of spraying for frost prevention was put in at Riverside some time ago and found ineffective for this reason. The files of the Pacific Rural Press contain detailed accounts of all these frost-prevention experiments and describes the most successful methods.

Roots Knots.

To the Editor:—The man in charge of my ranch in southern California writes me that the trees are affected with swellings on the roots. What is the cause and the proper treatment?—Subscriber, Ontario, Canada.

This has been a serious trouble in this State for a good many years. Although the knot has been studied by experts in plant pathology, no exact cause of the trouble has yet been found. A satisfactory treatment has, however, been discovered. If the knot has not increased in size sufficiently to seriously interfere with the growth of the tree it can be smoothly removed, the wound treated with the Bordeaux mixture, and the knot will not reappear at the same place. We have found that trees may carry a good amount of root knot, provided the accumulation does not occur at the crown of the root and thus interfere with the passage of the sap into the trunk. Knots on minor roots are less troublesome, and trees may be satisfactory for many years and still be infested with them.

Green-Manuring and Alkali.

To the Editor:—Is the lupin the best plant for green-manuring, and how are green manure plants grown? Is salt bush good for this purpose, and, if I use it, can I irrigate my orchard with water which contains some alkali?—Reader, Santa Clara.

Perhaps the best plant, so far as we know at the present time, for green-manuring in the orchard is the burr clover. The lupins are still under trial, and can be recommended only for experimental use as yet. All green-manuring plants should be sown early, so that they can make as much growth in the fall as possible. Australian salt bush would not be desirable for this purpose: First, because it is not a legume; second, because it makes rather a more bushy growth than is desirable. The alkali water would not hurt the salt bush; but if you should irrigate the trees with much water containing alkali, you are liable to encounter trouble from it in the growth of the trees. It would be desirable to determine just how much alkali the water carries in order that you might ascertain whether its use is dangerous or not.

Keeping Apples Under the Trees.

To the Editor:—Professor Wickson, in his "California Fruits," says that apples keep perfectly until late in the spring by piling under the trees and covering with leaves. Does he mean to put the apples on the ground or to put leaves or straw under them?—Subscriber, Lake county.

The successful keeping of apples under the trees depends, of course, upon the amount of freezing which may occur in any particular locality. The method is most successful in the coast valleys of central and southern California, where the temperature never falls below 25° and very seldom drops to that point. It will be successful at somewhat lower temperature than that if the covering is thicker and still not thick enough to induce heating of the pile. In frostier parts of the State, however, we would prefer house-storage with occasional sprinkling during dry times to prevent shriveling. In piling on the ground in a region of sticky soil and heavy rainfall we would certainly use leaves or straw beneath the fruit—just enough to keep the fruit out of the soil and not enough to occasion heating of the litter.

Poultry in the Orchard.

To the Editor:—I send you by express a small sample of Tuscan Cling peaches, raised on our place without irrigation. The crop, of which nine tons have been delivered, was sold to the cannery at an outside figure. Keeping 800 to 1000 fowls, the droppings for a number of years have been distributed around the trees, and the product shows the value of poultry to an orchard in a way not often considered in California.—Santa Teresa Poultry Farm, Eden Vale, Santa Clara county.

This is a fine demonstration of the value of poultry in the orchard and worthy the attention of fruit growers. The peaches are as handsome as we ever saw of this variety and ranged from 2½ to 2¾ inches in diameter. No wonder the canners paid well for them this year, when so many are complaining of small Tuskenas. Mr. A. D. Cutts brought his Tuskenas this year up to such a standard by irrigation that not a pound was rejected at the Marysville cannery, while so many other growers had fruit which did not rise 2 inches. Mr. Van Every, at the Santa Teresa Poultry Farm, brought his up with hen manure without irrigation. We are just now getting squarely on the proposition to give a soil what it needs to produce high-grade fruit. Sometimes it needs one thing; sometimes it needs another thing.

Gum Disease on Orange Trees.

To the Editor:—What is the cause of gum disease on orange trees and is there a remedy?—Grower, Tulare county.

Gum disease of orange trees and in fact of any tree is produced by different agencies. The most prevalent cause in the case of orange trees is the contact of irrigation water with the base of the tree. When the water is applied and allowed to settle around the trunk of the trees gum disease is very likely to result. For this reason orange growers quite generally provide for protection of the trunk by drawing the earth up around it, or by applying the water in furrows at a little distance away.

Gum disease will also result from excess of irrigation which causes the water to stand in the soil, thus rotting the fine, thread-like roots. It also results from allowing the soil to become too dry, in which the small roots will perish from drouth. Gumming is, therefore, not considered in itself a disease, but rather an indication of conditions unfavorable to the thrifty growth of the tree. It has been usually found by investigation that trees in perfect condition of health, with the moisture just enough and not excessive, are not troubled with gumming; but there are cases in which this statement does not wholly apply. There is very much in this connection which is not fully demonstrated as yet. Many treatments are proposed. It is a good thing to cleanly remove all the unhealthy bark—cutting clean to sound bark and covering the wound with paint or wax to exclude the air. Some report success with an antiseptic wash—diluted crude carbolic acid and the Bordeaux mixture have both been used, and reported upon favorably.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Aug. 14, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature for the week has been from 1 to 10° below the normal in the interior, nearly normal along the coast and slightly below in southern California. No rain has fallen, except light showers in Humboldt county, and a trace in San Francisco and portions of the bay section. Conditions have been exceedingly favorable for ripening deciduous fruits, and for the development of hops, corn and other crops, but have retarded the growth of raisin grapes. Harvesting and threshing are nearly completed, and enormous quantities of grain are being stored in warehouses. The second crop of alfalfa is being cut, and is yielding well. Late peaches are ripening; there is a heavy crop and the quality is excellent. Pears of fine quality are also abundant, and table grapes are becoming plentiful. Citrus fruits and walnuts are progressing favorably, though needing water in some sections. It is predicted that the raisin crop will be fair, though below the average.

Sacramento Valley.

There is a fair yield of the second crop of figs, and a large crop of late peaches. Usually cool weather was favorable for growing fruit, hut retarded drying. The quality of all fruit is excellent, and the peach, pear and almond crop is enormous. Grapes are becoming plentiful. The harley and wheat crop is nearly all sacked, and is being stored.

Coast and Bay Sections.

Cool, cloudy weather, with fog in some sections, has been favorable for growing fruit. Crawford peaches are nearly all gathered; Muirs now in market, and clings maturing rapidly; the quality is better than expected. Prunes are ripening, and in some sections drying has commenced; there will he a good crop. Grapes are beginning to mature. The apricot crop was light, and mostly sent to the canneries. Harvesting and threshing continue. Hay is being haled in large quantities. A large crop of oats has been harvested in Sonoma county. Barley is yielding better than estimated. Hops and corn were benefited hy the cool, foggy weather.

San Joaquin Valley.

The continued cool weather will retard development of raisin grapes; the fruit is looking well and ripening slowly. Deciduous fruit drying and canning are progressing. Late peaches are being gathered; heavy crop. Figs are yieiding fairly well. The water supply is decreasing in some places. Harvesting is nearly completed. In most sections the yield of wheat, harley and oats is above expectations, though not equal to a full crop. Hay baling is still progressing. The second crop of alfalfa is heing cut. Sweet potatoes continue thrifty. There is a large crop of Irish potatoes; quality excellent. Corn will he a fair crop.

Southern California.

Berries and other small fruits are excellent in quality, though not so abundant as in some years. Cool weather has been heneficial. Apricots are nearly all dried. The grape crop will he about average; pears light. Citrus trees are generally looking well. In the northern coast region barley is turning out well, hut wheat is light. There will be a good second crop of alfalfa. Beans were benefited hy cool, foggy weather. Beets will give a fair crop in Santa Barbara county. Corn is doing weii. Walnuts promise a large crop.

Los Angeles Summary.—Cool weather, with morning fogs in the coast sections, continued; thunder storms occurred in the mountains near the Mexican boundary, and a light shower occurred at Perris. Summer crops were benefited hy the cooi weather and the coast fogs, though corn and beans on irrigated land or soil not naturally moist are beginning to show the effects of the dry weather. Sugar heets are maturing fast; in places they are ripe and ready for the factory. Almonds are heing gathered, with favorahle weather; there is a good crop of fine nuts. Water development continues with favorahle resuits.—George E. Franklin.

The following data for the week ending 5 A. M. Wednesday, August 16, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka.....	.24	.24	T	.13	50	68
Red Bluff.....	.00	.02	.00	.05	58	90
Sacramento.....	.00	.02	.00	T	52	86
San Francisco.....	T	T	T	.04	54	72
Fresno	.00	.00	.00	T	58	96
Independence.....	.00	.07	.01	.04	56	90
San Luis Ohispo....	.00	.00	.00	.03	48	80
Los Angeles.....	.00	.02	.00	.05	54	82
San Diego.....	.00	T	.00	.03	58	72
Yuma	.00	.06	.00	.34	64	104

FORESTRY.

Observations on the Denudation of Vegetation---A Suggested Remedy for California.

NUMBER I.

By MARSDEN MANSON, C. E., Ph. D., in Sierra Club Bulletin.

When man, actuated by greed or ignorance, or a combination of the two, destroys the protection which nature spreads over rolling and mountain areas, he turns loose agencies which soon pass beyond his control. The protecting agent is vegetation, and whether in the form of forests, brush or forage plants and grasses, the balance between it and denuding forests is easily tipped, when the inexorable law of gravity, unchecked by myriad blades of grass, by leaves, roots and vegetable mold, gullies the hillside, strips the mountain slope, converts the rivulet into the torrent, and causes the steady flow of the river to become alternately a devastating flood or a parched sand bed. When once this balance has been destroyed, man cannot turn back the torrent and bid it flow once more a living and life-giving stream.

It would seem that this lesson had been learned so thoroughly by the human race that there would be little use to lay its precepts before a civilized community. But when one goes out over this fair land of ours and marks the rate at which its forests are being destroyed, its mountain forage areas devastated, he is tempted to regret that civilization should be permitted to spread its blight over the temples in which the savage worshiped.

But it must be remembered that this destruction ceases in the judicious use of this wealth of forest and of mountain pasture, and that it is only indifference and incivism which permit greed and ignorance to go unrestrained until they destroy the balance—that man has it within his power to utilize to its fullest measure this wealth and to pass it down to future generations as a blessing, rather than as a blight and a curse—and that he can even aid nature by extending vegetation over barren areas. But this requires that the reckless destruction of forest and the wasteful and continuous devastation of pasture should be replaced by systematic utilization of these sources of wealth.

Effects of Denudation in the Caucasus.—In several ranges of mountains and over considerable portions of California the writer has had opportunities to observe the effects of denudation.

Probably no range of mountains has longer had civilized man around its base that the great Caucasus and its outliers. This range extends from the Straits of Kertch to the Caspian sea, a distance of over 900 miles. The culminating peak, Mount Elbruz, rises some 3000 feet higer than the highest peaks in the United States, and the group is analagous to, but greater in all respects than, the Sierra Nevada. Its slopes drain either into the Caspian sea or into the Black sea and the Sea of Azov. The slope draining into the Black sea is subject to summer rains, and therefore more readily recovers from denuding agencies. The southern slope is broader and gentler than the northern, which is subject to a drier climate, and sparsely covered with both deciduous and coniferous growths. At all points where these mountains were observed man has wrought ruin since the dawn of history. Every stream, every slope, is marked with destruction. The great historic route up the Tirek, through the Darial pass, and down the Gudoor and Arangua to the plains of Asia Minor, is everywhere seamed with the ruin which the unrestrained hand of man has put in force.

In passing along the main drainage lines it is possible, with a little experience, to determine the comparative exposure of the tributary watersheds by the amounts of debris brought down. The illustrations on page 113 show the general appearance of the slopes and streams, the measures taken to restrain and divert the flow of debris from the roads, and to provide crossings where roads are buried and bridges swept out. Nothing which man can call to his aid can restore soil to these wasted slopes. Such is the penalty of unrestrained stripping of timber and forage plants.

Denudation in Southern France.—In parts of Europe the destruction has been as great. The literature on this subject is both voluminous and accessible. Enormous efforts have been put forth by the European governments to check the destructive force of torrents born upon the denuded slopes of the great chains of mountains throughout the continent. In no instance have these efforts been adequate, although much has been accomplished. Of the deserts of southern France, S. Baring-Gould writes that "one hundred years has sufficed to sweep every particle of soil from the Causses, which it took countless ages to accumulate; and land that once maintained a well-to-do population is reduced to a desert."

Denudation in Spain.—The plateaux of central Spain and the south slope of the Pyrenees afford the best comparisons with our conditions in California—the climate and rainfall being in general analogous to ours, and the poverty and desert-like conditions warn us as to our future, should our course of timber destruction and unrestrained pasturage continue. The descendants of the shepherds who devastated the fair land of Isabella are in many instances found at the same work in our mountain pastures, equally disregarding the laws of nature.

In the Rocky Mountains.—In the Rocky mountains the work of devastation has been inaugurated on a scale calculated to dwarf anything done in Europe. Forest fires, the crowding of vast herds of sheep, the ax of the lumberman, followed by the fires of the sheep herder, have all been active agents in converting vast areas into deserts as barren as those of the Causses, the Atlas, or the Apennines. In portions of the Rocky mountains trees spring up rapidly after the first forest fires. Even when these fires have been so fierce as to absolutely destroy every vestige of timber, a second forest springs up with remarkable promptness and vigor; but when this is destroyed the next attempt to restore vegetation is slower and not effective. The illustration on page 113 shows the second year of absolute barrenness in the midst of summer. The areas had been twice swept by forest fires—the first burning off the original timber, the second, following a few years later, killing the sapling firs and pines. Although two summers had elapsed, not a sprig of vegetation had started to clothe for the third time the naked rocky "backone of our continent."

In the Sierra Nevada.—The Sierra Nevada has fared even worse. Around Lake Tahoe the timbered areas have been entirely swept off, with the exception of a few thousand acres around Tallac, and some at the north end, reserved by the owners for later use. The mountain sides around the Hot Springs, and nearly all of the moraines and flats around the south and east sides of the lake, have been denuded. These areas, bereft of timber, are now ready to be abandoned to the State, large tracts being for sale at 50 cents per acre. The railroads, which were constructed to carry logs to the lake, have been torn up, and the region, shorn of its wealth and beauty, has been partly browsed over to give a few sprouts to hungry hordes of sheep.

On the forks of Carson river there are several townships from which every vestige of timber has been stripped, first for mine timbers and later for wood. Then the area was burned over to afford tender shoots for spring pasturage. To-day it is only in rare little patches that young conifers are beginning to gain a foothold, and fires destroy many of these plantations. On the east fork in 1896, after heavy summer showers, the water sluiced off the ashes and soil to such an extent that tons of trout were killed. After the torrent subsided one could drive a four-horse wagon along the banks and fill it with trout. It is doubtful whether the stream can be restocked until the denuded slopes shall be afforested.

Prevalence of Forest Fires.—It is only necessary to read the accounts given in the daily press to partly measure the destruction by forest fires. The writer has personally traced these through every mountain county in the State. Even of that area which has been sacredly set aside as the Yosemite reservation, the threat was openly made by the marauding sheep herders, who had devastated Spain and Portugal, that they "would burn the Government out"—referring to the cavalry sent up to prevent the illegal destruction of the vegetation protecting the headwaters of the Merced and Tuolumne. The overstocking of these mountain pastures is what is doing the greatest harm. The writer once asked an intelligent stockman how many sheep could be pastured on a given area in the Sierras, and he gave as his opinion that 8000 sheep could be pastured thereon without injury—that is, without destroying all seed of forage plants and grasses. But, upon naming over the owners and herds which he knew, there were 40,000 sheep accounted for in the area.

The photo-engraving upon another page was taken in the drainage basin of the Mokelumne. It shows the path of a so-called "cloudburst." This was nothing more that a heavy summer rain upon a burned-over district, concentrating rapidly in the steep gulches, and finally scouring away timbers, boulders and earth.

Cloudbursts.—In traveling thousands of miles in various ranges of mountains, on three continents, the writer has never seen the track of a cloudburst in a timbered country—always in the barren ranges from which timber was either naturally absent or had been destroyed by human agency. The reasons for this are twofold:

First—Heavy rainfall occurring in a well-timbered country is absorbed, even when the fall amounts to several inches in a short space of time. In a barren region this absorption does not take place; the rain rapidly collects in gulches and forms, in some instances, a veritable wall of water, soil, gravel and rocks, carrying everything before it.

Second—The layers of cold, dry air, and hot, moist air, can superimpose themselves in a treeless country in such a manner that when condensation is inaugurated it takes place with destructive violence. These conditions are modified, or even entirely prevented, by the effects of forests and vegetation; and hence those regions escape the most violent downpours. The rainfall in tropical regions is several times greater than any occurring upon the treeless regions subject to "cloudburts;" yet the destructive run-off from tropical forest areas does not occur, on account of the dense forests and undergrowth.

In the Coast Range.—The Coast Range in Lake county presents some of the worst of the early stages of denudation. The herding of sheep has been so close and continuous that the forage plants and grasses have nearly disappeared. Over large areas it is now difficult, if not impossible, to find a single specimen of a once abundant forage flora. Many acres of valley land are being washed away; the beds of streams are widening by cutting away alluvial deposits of past ages and leaving bars of cobbles and gravel in their stead. These evidences of rapid deterioration are characteristic of all the public and much of the private land in the county. This is the price which has been paid for the reckless use of the wealth with which that county was endowed; and the little benefit gained has accrued, in many instances, to herders or owners of sheep who owned no part of the lands upon which the damage is being inflicted. This county has been abused to such an extent that it is doubtful whether all the wealth which has been made upon wool and mutton in the entire State since 1849 could restore this single county to its pristine condition. Nor is this state of affairs confined to Lake county—it extends throughout the State. If unheeded for a generation more it will not be within the power of the human race to stay the destructive forces which have thus been turned loose, and to restore to our mountains their reservoirs of wealth and of water. Yet, under systematic and intelligent control, these areas may still be made the sources of perennial and increasing wealth, and the reservoirs from which the mining and agricultural lands below may draw never-failing supplies of water.

In Santa Clara county the floods of Los Gatos creek have measurably increased in destructiveness. In one of the richest portions of the valley more than $1,000,000 worth of land has been recently destroyed. The engraving on another page shows a portion of this destruction and the feeble efforts of the adjacent land owners to stay the force of the torrential floods which, with increasing volumes, are eating away the alluvial lands, leaving in their stead the "barranca" forms of southern and Lower California.

In Southern California.—In the lower reaches of the Santa Ana many hundreds of acres of valuable soil are being buried under wastes of sand brought down from the burned-over sheep pastures of the mountain watershed. These instances could be multiplied almost indefinitely from every portion of the State. but the real damage has so far only commenced. The most appalling feature is the absolute indifference with which the mass of the people and the lawmakers of our country regard the ultimate consequences of the forces at work.

(*To be Continued.*)

FLORIST AND GARDENER.

Early Onions and Lettuce.

TO THE EDITOR:—I am fully satisfied, judging from letters that I receive occasionally from PACIFIC RURAL PRESS readers, that many of them have not been subscribing for your valuable paper many years, or, if so, that they must almost have entirely forgotten the articles I have written for it during the past nine years in relation to the growing of early vegetables in this State.

For instance, I received a letter not long since from a married lady, an old and esteemed friend of mine, who asked me a great many questions on the subject, especially as to how I proceed in preparing my ground on a small scale for the raising of early onions, whether I sow the seeds or plant the sets, and at what time of the year; also why her onions, raised from sets grown from seed the previous season, almost invariably run to seed before they get of sufficient size to eat. These as well as many other questions she asked about growing early vegetables, but principally about growing onions, as she says she is remarkably fond of them and that she considers them one of the most healthful of vegetables. So do I.

Notwithstanding that I have written at least three long articles on onion growing for the PACIFIC RURAL PRESS during the past few years, I informed my lady friend that I would endeavor to answer her questions in due time, not only for her benefit but for many others who have doubtless became subscribers to the PACIFIC RURAL PRESS since my articles appeared.

How to Raise Them.—Any time during the month of August, or a little later, prepare a raised bed of medium rich soil; if it is inclined to be heavy, add fine creek sand and very fine horse manure. Make this bed 4 or 5 feet wide and as long as you wish, owing to the amount of seed you wish to sow; wet it

thoroughly and when in just the right condition to work make it as fine and level as possible, raking off all coarse hard lumps, stones, etc., then sow the seed. If one is a novice at the business, it is a very good plan to wet the seeds slightly and roll them in flour; by so doing they can be easily seen and can be sown just about right. As the young plants are taken up and transplanted from this seed bed when very small, the seeds can be very thickly sown, one to every quarter of an inch or so, as all the seeds will not germinate. After being sown tamp the bed pretty thoroughly with the back of a hoe and then cover the seeds with about three-eighths of an inch of soil same as in the bed. Tamp this down lightly and then give the bed a thorough sprinkling with warm water, after which cover with a light dressing of fine horse manure; this is *very* essential in order to keep the surface of the bed from baking. I generally cover my bed with old grain sacks for eight or ten days, as it serves to retain the moisture, especially in hot days or during north winds. The bed must be sprinkled occasionally, often enough to keep the soil moist, but not too wet. After the first soaking rain prepare raised beds 4 feet in width and any length desired, and set out the plants across the beds in rows 8 or 10 inches apart and the onions about 2 inches. This bed should be made richer than the seed bed. I find an application of liquid hen manure, after it has stood a few days and fermented, gives the best of results; use it once a week. I prefer it to nitrate of soda, which I have experimented with this season pretty thoroughly with rather poor success.

Onions grown from top sets will be ready for table use very early in the spring by putting out the sets in rich raised beds soon after the rainy season commences, but those raised from sets grown from seeds (with me) almost invariably run up to seed before they are large enough to eat. For this reason I stopped raising them several years ago.

There are so many varieties of onions it is pretty difficult for one to advise as to the best, but the following named are perhaps as good as any: Australian Brown, Oregon Long-Keeper, Prizetaker, Yellow Danvers, Pearl, and for heavy soils the Large Red Wethersfield.

LETTUCE.

This is not only a very hardy, but one of our best and earliest salads. The seeds can be sown at the same time that onions are. It is best to sow the seeds quite sparingly, so as to give each plant plenty of room. Great care should be given in this respect, so as not to have the plants too thick in the seed bed; if so, they soon become weak and spindling, and are almost entirely worthless. Rake in the seed very thoroughly, both ways, and then tamp the bed lightly and put on a light dressing of horse manure, and care for the same as the onion bed. Transplant 1 foot apart when of sufficient size, say 3 or 4 inches in diameter. Lettuce needs *very rich* soil, as well as plenty of moisture, and consequently flourishes best here in February, March and April.

Kinds of Lettuce.—For family use I still consider the "Hanson" as good as any, as it generally makes large, compact and handsome heads which are crisp and tender, and nearly always free from bitterness, *providing* it has the needed requisites: rich soil, plenty of moisture and the best of care.

Best Variety for Poultry.—For poultry, especially young chickens, who are very fond of it, I prefer the "Trianon" or "Celery Lettuce" to any other variety. It has long, conical heads which grow to a good size. Last season I raised one very large head, and afterwards two large strippings of leaves from one stalk, by stripping the leaves so there were only a very few left and not over 2 inches in length, which I could easily span with my thumb and finger. I find nothing to equal this variety of lettuce for early feed for poultry, as it is much easier stripped than any other, owing to its long, large, stiff leaves, and by sowing the seeds at intervals one can grow it at all seasons of the year, provided it is irrigated.

Calistoga, Cal. IRA W. ADAMS.

THE VETERINARIAN.

Those Cattle Ticks at the South.

We recently mentioned the embargo placed upon cattle intended to move from Lower California across the national boundary at San Diego. The local dealers are much put out at the restriction. Collector Bowers of San Diego wrote to the department at Washington that no cattle disease had existed in Lower California for thirty years, of his own knowledge, and that ticky cattle were as numerous on this side of the boundary line as in the Mexican territory. He also stated that during the past five months 2900 head of cattle and sheep had been imported into that district from Lower California, and that $7725.25 in duty had been paid upon them. Under the new rule, the receipts of the custom house will be diminished over $1200 a month.

The Washington authorities reply that there is no doubt that the Texas fever tick infests the cattle from Lower California, and that the cattle, being so infested, are diseased. Ticks, says the letter, are prima facie evidence that the cattle have fever, and that shipments of cattle from California into other States of the Union are prohibited on this account. Stockmen are unable to understand why ticky cattle from Lower California are kept out of a section that is already so badly infested with the ticks as to be quarantined against by all the rest of the country. Stockmen say that, if the rule is enforced, it will result in considerable smuggling of cattle across the line.

The stockmen of San Diego seem to have a pretty strong argument in the fact they call attention to, viz: that California is already so bad that it is prevented from shipping cattle North or East, and yet, if they want to get a few more ticks from Mexico, they are prohibited. We presume the answer would be that California, or, at least, part of the State, is working hard to get above the quarantine line, and the only hope of freeing the State will be to close the gate on the south and keep it closed, even if the San Diego custom house languishes in idleness and the people have to bring their live stock from other directions. There is, however, another phase to the matter in the alleged statement of the local cattle inspector for the Government, that all the cattle he had inspected on the border were healthy, though all were infested with the ticks. He says he found them at Campo in a band of over 300 head, and was compelled to deny them entry into this country.

Probably the solution of the matter will be the erection of a dipping station at the Mexican line, and private parties seem disposed to undertake this as an addition to the industries of San Diego county. The Government rule is that cattle found upon inspection to have been exposed to infection during the preceding three months must be dipped at port of entry under supervision of an inspector of the department prior to admittance to the United States. After dipping, they must be taken to a designated slaughtering point for unloading. This can probably all be arranged, and the latest phase of border warfare and bold smuggling may be its best.

THE DAIRY.

Dry Year Dairying.

By C. W. KEYS, Alhambra, at the Southern California Convention.

I think the two great milk feeds for southern California are, first and greatest, alfalfa, and second, corn either green or as silage, and those dairymen who have them properly prepared and in sufficient quantities can do without worrying as to dry years. Alfalfa is best fed as hay, it being very much too expensive to cut and feed green. The hay should be put in the mow rather damp and the cows will do nearly as well as if it was fed green. I would prefer to silo the corn when about in roasting ear; but if you have no silo and feed it green, it should be commenced on rather early, as it is better a little green than too ripe when fed without cutting.

When the alfalfa is drying up, as a good deal is more or less, and the corn won't grow, then our troubles commence, and we must look for some other feeds. Sorghum will make a good growth when field corn would dry up and blow away, and if fed green is nearly up to corn, and you may get two cuttings, even on pretty dry land. Kaffir and Egyptian corn will do on still drier land and make fair feed if not too ripe. My experience is that the cows would not eat them if the heads were allowed to ripen. I would sow all three of these feeds in drills pretty thick, so that the stalks will be fine.

Pumpkins may be made to play an important part in a dry year ration. They will grow when corn will not if given plenty of cultivation till they commence to run, and it will pay to lay the runners back and cultivate once if the land is pretty dry.

In feeding pumpkins I think it pays well to cut them for the cows. I fed my cows for a month one year on about fifty pounds of cut pumpkins per day and barley hay; it was good barley hay about sixteen inches long and full of grain, and they did very well indeed.

I have heard men slander the citron or pie melon, as it is sometimes called (probably because it is not good for pies); but a neighbor of mine kept a dozen cows for three months on nothing but white citrons and corn stalks—not fodder nor stover, just weather-dried stalks—and they averaged about sixteen pounds of 3.4% to 3.8% milk per day, so I think the citron is worth considering when things are dry, for it seems to grow almost anywhere. I have some growing now where the soil was so dry that the seed would not germinate until I put half a bucket of water on each hill. They are growing still and forming citrons.

In handling land for dairy crops, if one has any wet land or any that can be wet, it pays to crowd it hard, particularly if the year is dry. It is astonishing the amount of feed a small piece of ground will produce in a year if intensively farmed. If you have such a piece, manure it heavily and you should get a crop of green barley first, then corn cut rather early and followed by pumpkins or citrons. Intensive farming pays every time, and especially when land and feed is as high as here.

The Value of Pigs on the Dairy Farm.

By JAS. R. BOAL, Lynwood, Cal., at the Southern California Dairymen's Association.

As an accompaniment to the dairy, the pig fits in nicely, furnishing a profitable disposal of what would otherwise be wasted. Breed is an important factor as well as feed and care in determining the profit. There is skill and judgment required in this as well as in the breeding and growth of other stock.

Properly managed, pigs can always be grown at a good profit on a dairy farm. Every farmer who sends milk to a creamery or cheese factory can make good money by keeping a few pigs to eat the skim or whey which he gets for the hauling, to say nothing of the convenience of occasionally having fresh pork which he knows is first-class. I have seen statements published in agricultural papers that, in my judgment, overestimated the value of these by-products, but without question they are worth from 15 cents to 20 cents per 100 pounds at a conservative estimate; and when fed with other feeds, their value is greatly increased.

It is a common expression by visitors at our place, "Why do you keep your pigs so fat?" yet we feed very little besides skim milk. For months at a time they have absolutely nothing else, and we frequently buy pigs just for the purpose of disposing of our surplus skim and invariably make a good profit on the investment.

Under favorable conditions pigs can be grown and matured on alfalfa, but land is most too valuable in this immediate neighborhood to use that way, unless it is fed in the shape of hay, which for that purpose must be cut when quite young and fine and cured very green. I am satisfied that the feeding of swill and the refuse from hotels and restaurants, etc., which includes dishwater, is very unprofitable, as there is in it enough sal soda or powdered soap to cause illness strongly resembling swine plague, or so-called hog cholera. I have known of parties having serious losses who fed this refuse, which, as well as the unhealthy sanitary condition of the surroundings, had much to do with the trouble. With ordinary precaution and care, disease ought to be and will be practically unknown among swine in this country.

The time required for the care and feeding of hogs, after one has fitted up for it properly, is very little when compared with the returns. Farmers are finding that in the breed there is a great difference in the amount of feed required to mature pigs, as the cost of the first 100 pounds weight put on a pig generally determines its value. The demand for thoroughbreds is rapidly increasing. I am glad to see that so many boys and young men are buying pigs of choice breeds, and in this way are building up the old herds and adding many dollars to their yearly profits.

How to Deliver Clean Milk.

By JOHN JUDSON of San Pasquale at the Agricultural Society Meeting at Escondido.

The subject of dairying in southern California has been treated so exhaustively, both in writing and experimenting, that it is needless to add more to prove it a perfect success, if proper methods are used.

Patron and Creamery.—The subject I would like to present at this meeting is: The duties and relation a milk patron holds to the creamery, and also some suggestions that he should carry out that dairying may be made a success. I will say here and now that just as much of the success of the creamery depends on the proper handling of the milk by the dairyman before it reaches the creamery as it does afterward in the manufacture and sale of the product, and unless a first-class article can be turned out from the creamery the milkman as well as the creameryman will suffer loss, for the price of milk is always regulated by the price of the dairy product.

From the amount of dairy literature now published giving the results of the experiments and researches of our university experiment stations and our successful dairymen, one would think that ignorance in regard to the proper handling of milk and its product would be a thing of the past, but unfortunately we find that this is not the case.

If but one or two of the milk patrons of a creamery are slovenly, negligent or ignorant of their duties as milkmen they injure the whole output of the creamery, and the greatest difficulty the creameryman encounters is to educate them to see the necessity of bringing their milk to the creamery in proper condition. For this reason the creameryman finds that eternal vigilance is the price of success.

Cleanliness.—Since the study of bacteriology commenced and the discoveries of bacterial growth, which is the great element in acidulation or souring of milk, it has been demonstrated that cleanliness is

the best preventive of acidulation of milk. For this reason the watchword of the dairyman should be cleanliness.

All dairy utensils, such as milk pails, milk cans, etc., should be thoroughly cleansed, scalded and aerated. Don't think that washing with a little warm water and made to look clean will do. Under such circumstances there has been enough bacteria left in the seams of the utensils to multiply to the million in less than twenty-four hours under favorable circumstances.

Milking utensils should be cleansed by using warm water with a little sal soda in it. Don't use soap of any kind. After cleansing, thoroughly sterilize by steam or scalding water. Then lay them on a rack where they have the benefit of the sun's rays all day to dry and aerate.

Milking.—Milking should be done at regular hours, and as quickly and thoroughly as possible. All milkers should be required to milk with perfectly clean hands. In sitting down to a cow to milk hold the pail to the left and away from the cow, while with the right hand thoroughly brush all dirt or dust from the udder and teats, also in front of the udder and on the side near the flank, or wherever there would be any dust likely to fall into the pail while milking. If teats and udder are dirty, wash with pure, cold water. Don't allow the milker to keep the teats and hands wet with milk. This is a dirty, nasty practice and the means of introducing a greater number of bacteria into the milk than from any other cause whatever.

Straining and Preparing the Milk in the Creamery.—In nine cases out of ten the milk is strained by each milker into the can that will carry it to the creamery. This can should be set on a high bench, where the air can circulate freely all around it. The bench should be set to the windward of where there would be likely to be any unpleasant odor. Have a cover for each milk can made of galvanized wire screen, such as we use for doors and windows. This keeps out all flies and insects and allows the animal heat and odors to escape. Some dairymen that want to be extra nice with their milk will put a thick flannel or linen cloth over the can through which to strain the milk. This prevents the animal heat from escaping and thereby causes ten times as much injury to the milk as the few particles that might escape through the strainer. Don't put the covers of the cans on until ready to start for the creamery. When starting for the creamery, if the milk route is a long one and the weather hot, wet sacks or blankets should be wrapped around the cans, and then all covered with a wagon sheet.

If these few simple rules are followed by the milkman and the creameryman does his duty, the consequence will be a first-class product that will always be in demand at high prices—consequently good profits to all, dairying a perfect success, and all concerned will be happy.

Yellow Melilot in the Bed of the Salinas River.

To the Editor:—In connection with Mr. Poundstone's article and your remarks on meliotus, in the Pacific Rural Press of July 22nd, it may be interesting to note the annual growth of the small-flowered yellow melilot (*Melilotus parviflora*, Desf.) in the bed of the Salinas river, at Paso Robles. After the winter floods have subsided, this melilot springs up all over the dry river bed, growing freely in the coarse sand and gravel, its roots, of course, following down after the moisture.

This growth of clover affords good pasturage for cattle. Cows eat it readily, and, as far as my observation goes, without disagreeable effect on the milk from the peculiar odor of the plant. I am at present using milk from cows which have been herded on the river but half of every day since the clover was high enough to eat, and notice no taste or odor of the clover in the milk. Some persons pull the clover in quantities to feed to cows, fearing the animals may suffer from eating sand and gravel with it if allowed to graze. Several head of stock were lost here last summer from grazing the clover too close, and, consequently, eating sand and gravel with it. In an ordinary season, when feed is abundant, there is small danger of this, especially if the stock is herded.

Where not pastured down, the melilotus makes a pleasing greensward in the river bed, most grateful to the eye during the hot, dry summer weather.

Mr. Poundstone's observation of the vitality of the melilotus seed is borne out by its behavior in the river bed. J. W. Barber.

Paso Robles, Cal.

Mr. Burbank proposes to take up something warmer. The Santa Rosa *Press-Democrat* says he is going to try to work more sugar into the sugar cane for the Hawaiians and more cafeine into the coffee for the Central Americans. He will begin with seed of sugar cane in September and is having one of his greenhouses rigged up for high temperatures.

THE APIARY.

Dead Brood and Kingbirds.

Prof. A. J. Cook of Claremont writes for the *American Bee Journal* his observations on California occurrences in the apiary line.

Dead Brood Not Foul Brood.—It will be remembered that in 1894 there was much complaint of dead brood in the apiaries of southern California. The present season shows the same condition again. I have received samples from nearly every section of southern California within the past few weeks, always attended with the inquiry, "Is it foul brood?"

This dead brood is not at all like foul brood, and anyone who attends to the following description carefully, will have no difficulty in distinguishing the one from the other: In this case, the characteristic, most disagreeable, odor of foul brood is wholly wanting; the sunken cell cap, with its frequent perforation, is also absent. The dead brood is always in the form of larvæ, and never in the sticky, pasty, unctuous mass so characteristic of foul brood. We insert a pin and draw a decaying larva from the cell, and it is not a stringy or ropy substance which springs back when it lets go the pinhead, as is true of foul brood, on the whole, yet it often appears coffee-colored or a rich, dark brown, as does foul brood. The surest way to tell is in the character of the decaying substance in the cell. If the larva is always found, showing the form even in its decay, instead of the stringy, elastic, pasty mass, then it is not foul brood.

I had a good deal of this in my hives in 1894, but I found it only in colonies in a starving condition, and as soon as I fed the bees properly the trouble disappeared. I have recently examined several colonies, where there is abundance of honey and pollen in the hive, and I found no sign of the disease. I believe it comes from some condition which kills the larvæ. I have pretty good reason to think that this is usually lack of stores. If it is sometimes present with abundance of food, as is reported by some of our good authorities, then it must be some other cause that brings death to the brood. Once dead, natural decay commences. The number of dead bees is not usually sufficient to produce any serious stench about the hive.

I suggest to all who are disturbed with this dead brood, to feed the bees, or see that they have plenty of honey, and I predict that their experience will be like mine in 1894—the trouble will disappear. It is significant that we hear nothing of this trouble in good seasons, and so far I have observed, see it only in good apiaries where stores are very short in the hives. Nearly all who have sent me this dead brood this year have stated that the bees are very short of honey.

The Kingbirds.—There are two birds in the United States that kill bees, both workers and drones, and I feel sure that they would not hesitate to take the finest queen should opportunity offer. The birds are wholly insectivorous. They belong to the family Tyrannidæ, which also includes the common, well-known pewee. Both, or possibly all three, species belong to the genus Tyrannus. They are all known as kingbirds, bee martins, or tyrant fly catchers. The Eastern one is Tyrannus tyrannus, while the one here in southern California is Tyrannus serticalis. Another species I have taken here is T. vociferans. The Eastern one is dark ash, almost black, while the California species are ashy with yellow bellies. All have a characteristic red patch on the crown of the head.

We have found these birds here right at the apiary, and I have seen them dart down to the hives. They were taken, their stomachs examined, and no bees found, but, instead, the robber flies, which are among the worst bee enemies we have. So about here, I feel confident that they are more friends than enemies, even of the bees. Yet I know from actual examination that the Eastern kingbird does upon occasion take bees, and workers at that. I presume the California species may rarely do the same thing, though none of those killed here have shown any bees in the stomach. Robber flies, cutworms, grubs and locusts have been found abundantly in their stomachs. Even granting that they do levy occasionally on the apiary, they take without doubt a score of harmful insects to one bee.

I should like to known how they manage the stings when they kill worker bees. If they swallow the bees instanter, they must be stung, as the bee is too quick with its defense organ to permit escape. I have taken five stings from the throat of a toad that had taken five worker bees just before. We can believe a tough, non-sensitive toad might wink at such misfortune, but the more sensitive kingbird, we should think, would wince, and feel the pain acutely. Can it be possible that they have some way of avoiding the sting? I hope any who have opportunity will observe on this point. I should like to receive stomach and head and throat of a kingbird that had been really taken after eating worker bees.

HORTICULTURE.

The Yellow Mite.

To the Editor:—This summer the yellow mite has been a veritable scourge to the prune orchards of Vacaville. The damage ranges from nominal to almost total loss of leaf. In our neighborhood we have tried drenching with water, dry sulphuring, and also the water, sulphur and caustic soda remedy. Concerning results, there are almost as many opinions as orchardists. Some trees come through all right, but that is attributable to internal vigor. But how to head off the pest another season is the problem for which we want a practicable solution.

Spray Proposed.—I know that some one is credited with the following:

Four hundred gallons water, one barrel lime, twenty-five pounds salt, twenty pounds caustic soda, two and a half pounds arsenic. Dissolve the lime, salt and soda; stir thoroughly. Pulverize the arsenic to a powder and add same. While spraying keep the mixture well stirred. Do this as soon as the crop is off and finish before the rainy season commences; the rain will drive the solution into the ground around the roots where the eggs are deposited. Spray from 1½ to 2 feet around the body of trees and from the forks of the tree down. Follow instructions and your trees will be free from the pest next season.

The above sounds well and may be all that is desired, but I doubt it.

Subterranean Mites.—My reason for doubting will be apparent when you have examined a package of clods which I mail to you under another cover. These clods were taken from the orchard of Mr. T. J. Mize, some of them from a depth of 3 feet 2 inches below the surface and at a distance of 10 feet from the trees. The live insect was visible at the time the clods were thrown up from the well which Mr. Mize was digging. The trees were not badly infested, as the worst of them had scarcely lost more than one-third of their leaves. Please place the clods under a good glass and tell us all about what you see.

Leaving the Tree.—I know from observation in my own orchard that the insect leaves the tree at night and ascends again when the day begins to get warm. Would pure tar daubed on the trunk of the tree prevent the ascent? Would it be injurious?

Vacaville, Cal. L. J. Harbison.

We are glad to have this communication. Unquestionably this mite question is one of the very greatest importance in the hotter parts of the State, and the spread of the insect during the last two years has been appalling. We believe it will diminish with a return to long rainy winters, but it can ruin much property before that time.

We have little doubt that the spray mentioned will destroy the eggs of these mites. The addition of arsenic vastly increases the scale and mite-killing property of a wash; but our observation thus far is that the arsenic addition is very dangerous to the bark of the trees. We have seen old bark, a quarter of an inch in thickness, turned brown all through by an arsenic preparation. It will kill them, we are sure, but we do not guarantee the trees.

As for the insects going to the ground, we have no doubt that they do go in vast numbers; but we have no idea at all that they voluntarily go to the ground or that they return in any considerable numbers. No doubt they are knocked or blown from the leaves in large numbers. From a badly infested tree they fall by millions with the leaves and from the leaves and bark. The soil under the tree becomes alive with them, they are blown considerable distances, they crawl down cracks and settle everywhere. We doubt if they were in the bottom of that hole before the hole was made, but every breath of air blew them into the hole as the digging proceeded.

There is no apparent purpose for these insects to go to the ground. They deposit eggs upon the bark, the offspring hatch from these eggs and begin work at once upon the leaves and soon reach maturity to lay more eggs on the bark. The eggs go through the winter on the bark: in fact they are not injured by any but the most cutting washes. We have no idea that they go to the ground except by accident.

It would be exceedingly fortunate if their life history required them to go to the ground. It would make them very easy to dispose of by means of a sticky band as you propose, only it would not do to put the substances you name directly on the bark, for it would kill every spot it touched. Put the tar on a thick paper: draw a piece of sacking very tight around the tree and put the tarred paper over that. But we have no idea this would accomplish anything. We believe the pests go to the ground by the million, as we have said, but we think very few of them get back again to the tree.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

GOOD CROPS.—Haywards *Journal*, Aug. 12: Jacoh Harder had a fine yield this year; from sixty acres he secured 2050 sacks of common harley, and from forty acres 985 sacks of Chevalier, or a total of 3035 sacks from 100 acres. Mr. Harder states that on one tract of fifteen acres the yield went forty sacks to the acre. Returns from 230 acres on the Meek ranch give a total of over 8000 sacks of common bariey and oats. The hariey averaged ahout 120 pounds to the sack and the oats 100 pounds.

Butte.

CROP REPORTS.—Biggs *Argus*, Aug. 11: Wm. Grant, superintendent of the Balfour-Guthrie ranch, has harvested 10,000 sacks of wheat on one sectlon of land. This crop was planted on ground from which frost had kiiled the seed last year, and which had not been plowed for two years. The grain was harrowed in and produced a hetter crop than any of his summer-fallow. Daniel Streeter & Sons have finished harvestlng ahout 500 acres of wheat. The summer-faliow portion averaged from fourteen to sixteen sacks. The winter-sown did not yield as much, hut the whoie averaged ahout twelve and one-haif sacks to the acre, or an aggregate of over 6000 sacks.

INCREASED THE BEARING.—Oroviiie *Register*, Aug. 10: Ole Lund has some of the finest oiive trees in town, and has experimented to test what wiii increase the crop. A few years ago he cut a trench aiongside his iargest tree. This cut some of the roots. He fiiled the cutting with manure and for a number of years there was a very heavy crop. One year, after the trench was dug, the tree hore forty gaiions. A tree that was unusually weii watered from standing near a horse trough also hore heavier than the others. He put old leather in oonsiderahie quantities ahout some of the trees and covered the same with manure. He found this had a good effect on some of the trees.

OLIVE MILL BURNED. — Chico *Enterprise*, Aug. 14: Eariy yesterday morning a fire broke out in the Kusel Bros.' olive miil at Orovilie, causing a ioss of about $2500. In the miii was a quantity of pickied oiives and oiive oii. The miii and contents were totaiiy destroyed.

Contra Costa.

ALMOND CROP OVERESTIMATED. — Antioch, Aug. 14. — Recently the secretary of the Almond-Growers' Association of Contra Costa county sent circulars to the growers of this section to ascertain the extent of the crop which wiii he harvested this year. The repiies received are a great surprise to everyhody, as it is found that according to former estimates the crop has been greatly overestimated. Instead of 300 tons it is not iikely to exceed 150 tons.

Fresno.

IMPORTED SHEEP.—*Republican*, Aug. 3: F. J. Burleigh, the grain deaier, has at his warehouse in this city eighty of the finest rams ever seen in Fresno county. Each of the animals has a pedigree which traces his ancestry back several generations. Aii the sheep are hig, fine-looking feiiows with smooth hiack faces and snowy whlte fleeces. The rams came aii the way from Ontario, Canada, in a private car fitted up especially for them. Three stops were made on the trip—one at Chicago, one at Omaha and one at Ogden. At each of these places the sheep were taken from their car and given an opportunity to rest. Whiie they were resting, the car was thoroughly cleansed and stocked with a fresh supply of food and water. The sheep, therefore, aii arrived in good condition. Some of the rams were purchased at very high prices. Several of them cost as much as $100 and the sires of some of them were worth $600. They are Shropshire Down and Lincolnshire Down varieties and are famed rather for their size than for the quality of their wool. The rams are horniess and ahout twice the size of the ordinary Merino sheep. The chief advantage in hreeding this kind of sheep comes from the fact that the iambs at six months of age are twice the size of the lamhs ordinariiy seen in Caiifornia.

Humboldt.

PRODUCE EXPORTS.—Eureka *Standard*, Aug. 9: A compilation of data shows that in the month of July the exports of county produce heid up with other months of this phenomenal year. In butter the exports, whiie they were 29,760 pounds less than those for the preceding month, and 14,100 pounds less than those for May of this year, yet they were satisfactory when the waning of the season is taken into consideration. The exports of butter from this county in July for the past six years have been as foiiows:

Year.	*Pounds.*	*Year.*	*Pounds.*
1894	374,700	1897	443,595
1895	470,760	1898	505,200
1896	410,880	1899	574,210

Juiy was the banner month of the year for wooi exports, which amounted to 274,848 pounds, exceeding those of May, the next iargest, hy 60,403 pounds, and making the totai shipments for the year to August 1 764,218 pounds. Among other items were 1265 cases of condensed miik.

Kings.

HONEY SHIPMENT.—Hanford *Journal*, Aug. 11: Secretary Brown of the Bee Keepers' Association shipped two carioads of honey from Hanford and Guernsey to Chicago. The price paid for the extracted honey was 5¾ cents. This has heen the banner year in Kings county for honey, as the hee men had the iargest crops, finest quality and received hetter prices than they ever have hefore.

Los Angeles.

ORANGE PRICES.—Pomona *Times*, Aug. 9: Manager Adams of the Pomona Fruit Exchange has paid out over $8000 to memhers within the past two weeks. This makes about $80,000 which this Exchange has paid to its memhers for oranges during the past season. The net figures which the Exchange has made for its members' fruit are as foiiows: Navels, $2.12 for fancy, $1.71 for choice and $1.44 for standard, or an average of $1.70 for all Navels (iess culls) delivered at the house this year.

SPLENDID WELL.—Pasadena *Star*, Aug. 9: The new well near Long Beach has developed an immense flow of water. Yesterday a pipe standing ahout 30 feet above the ground was put in and the water now pours out of the pipe, continually increasing the size of the iake that is forming a short distance away. The flow out of the pipe is said to be 290 miner's inches, and it is estimated that hy pumping 600 inches could he had. The well belongs to the Bouton Water Company, which hored it with the idea of securing an increased supply for Long Beach. The sight of water flowing out of a pipe 30 feet high is very attractive and crowds watch for it as the trains go by.

Mendocino.

PRICE FOR HOP PICKING.—Ukiah *Dispatch*, Aug. 11: The Ukiah Valley Hop Growers' Association fixed the price for picking hops this year, as follows: Ali pickers who come to the yards, 90 cents per 100; aii whom the growers have to send teams after and move to the yards, 80 cents per 100.

Monterey.

FIRST LOAD OF BEETS.—Watsonviiie *Pajaronian*, Aug. 10: The first load of heets was delivered at the Spreckels factory last Monday hy J. Grimes. Its gross welght was nearly five tons.

IRRIGATION ENTERPRISE.—Saiinas, Aug. 13: The Gonzaies Water Co. will hegin on its big irrigation canai on Monday. Work wiii he commenced near the town of Gonzales. Sixty men and 200 horses will he put at work now and the force wiii he greatly increased as work progresses. The canai wiii he 30 feet wide at the top and 15 feet at the hottom. It wiii he ahout seven miles in length and will carry sufficient water to irrigate about 4000 acres of land.

Napa.

A LARGE APPLE.—*Register*, Aug. 11: Mount & Boke have on exhihition at their real estate office a huge apple which weighs eighteen ounces and measures 14½ inches in circumference. It is of the Baldwin variety and came from the D. A. Mervy place.

San Bernardino.

HORTICULTURAL COMMISSIONERS' REPORT.—*Sun*, Aug. 8: The first monthiy report of the new Board shows that the expenses are as foiiows: Salary of commissioner, $156; salary of inspectors, $79.65; miscellaneous expense, $38.15; totai expense, $273.80. The county has heen redistricted and in the future will have one district known as the Redlands district, which will inciude all that part of the fruit district in and adjoining Redlands, and J. J. Reeves has heen chosen to iook out for the same. One wiii he known as Colton district and will include Highgrove, and E. A. Pettijohn will be the representative there; one at Riaito, to include Bloomington under J. R. McKinley as inspector; one at Cucamonga, under T. G. Grayham, and one at Ontario, which wiii include the whole western end of the county, under Commissioner Fink, with A. L. Dean as inspector. The Highiand district wiii he looked after by Capt. Bosworth and the office work will be done in the future, as it has heen in the past, by Secretary Curtis.

GOOD SHOWING.—Colton *News*, Juiy 28: The Coiton Fruit Exchange made a dividend of $8000 to its members this week. The memhers of the exchange have received for fruit sold since Jan. 1st: Washington Navels, 2¼ cents per pound; Valencias. 4 cents; Seediings, 1¼ cents; Mediterranean Sweets, 2¼ cents; St. Michaels, 2½ cents; Bloods, 2¼ cents; Tangerines, 3½ cents. These prices are for fancy and choice, all sizes. They have also received from 1 to 2½ cents per pound for standards, or third-grade fruit, and wiii still get, when the final settiement is made, from an eighth to a quarter of a cent per pound more on aii varieties and grades.

San Diego.

HUSTLING HAY BALERS.—Escondido *Times*: The Ericsson, Williams & Johnson hay baiing crew, which has been at work in this valley, made the foiiowing record last week: Total for the week, 435,475 pounds; most in one day, 533 hales, weighing 92,090 pounds; most in one-haif day, 272 haies, weighing 48,105 pounds. The iast thirteen haies, weighing over a ton, were run through in eieven minutes. July 27 six moves were made and 64,190 pounds were haled.

San Joaquin.

FARMERS' STEAM BARGE COMPANY INCORPORATED.—Stockton *Mail*, Aug. 11: The Farmers' & Merchants' Transportation Company has filed articles of incorporation. The capitai stock consists of 1000 shares with a par vaiue of $50 each, of which the following has heen subscribed: E. C. Dickinson, $1000; H. E. Wright, $1000; A. W. Simpson Jr., $1000; H. A. Wright, $1500; A. F. Williams, $500. The officers are: H. A. Wright, president; A. W. Simpson Jr., vice-president; E. C. Dickinson, secretary and treasurer. The object of the incorporation is to operate steam barges. A barge fitted with propelling machinery will he constructed at once, and probably he ready for business in two months. Captain A. F. Williams will be in command. "We have not been ahle to get our grain and hay hauled as we would like to have it," said E. C. Dickinson, "and as there are a number of others who have had the same experience we thought there was a field for more transportation faciiities. We expect to put on one two steam harges at first and increase the number and kind of our vessels as there is a demand for them. We already have the machinery for the first harge, and the contract for the huil wiii be let in a few days. We do not expect to carry passengers nor run on schedule time, hut we will go wherever there is a demand for our work. We expect to haui mainiy grain, hay, lumher and general produce, though, of course, we wiii take any kind of freight that is offered. At present the differentiai hy raii to Port Costa from here is 50 cents a ton. The freight by hoat from here is now 65 cents, so that to ship grain from Lodi here by rail, make the transfer to the boat, and pay the freight to Port Costa, would cost $1.25 a ton. It is the same way from any other point, and consequently nearly all the grain from outside points goes to Port Costa hy raii. We think it ought to go hy hoat."

GRAIN THRESHING ON RECLAIMED LAND.—*Mail*, Aug. 11: R. J. Parsons, who farms a portion of the Sargent tract of reclaimed land northwest of Stockton, was in town yesterday getting ready to start his stationary threshing machine. He said there are five other stationary machines hetween here and New Hope, as the grain is so heavy, the weeds so thick and the dews so damp, that combined harvesters do not work successfuiiy. The grain is ahout aii cut, as mowing machines, reapers and headers are used, and the crop is cut early and left in piies in the fieid until it is thoroughly dried. The method of heading used is to have a dumpcart arranged to catch the grain as it comes off the draper, and when the cart is full, the grain is dumped in the fieid, ieaving it in large piles. Headers cut the grain more rapidly than mowers, hut, as the thick stuhhle is ieft and the piles of grain are dumped in the stuhhle, it is very hard to gather it all up, as many of the short heads are lost in the stuhhle. One man, who has 500 acres of harley which is ahout half gathered into the stack, estimates that he had already lost 1000 sacks in that way. Consequently, mowers are commonly used in cutting the grain, for they cut the straw ciose to the ground and very little is iost. Self-binding reapers have heen tried, hut are not entireiy satisfactory. There is one steam harvester working there, but the grain is first cut with a header, and then the harvester goes around to the piles ieft hy the header and the grain is pitched on the draper of the harvester and threshed. This saves putting it into the stack; hut a great many think that the expense of moving the machine around more than counterhalances that saving.

San Luis Obispo.

GOOD CROPS.—*Breeze*: "Between San Luis Ohispo and Oceano the crops are usually heavy this season," said James K Frazier of the Southern Pacific Company, who has heen making a husiness trip over his division. "The crops in this vicinity have exceeded all expectations. From north of Santa Margarita they hegin to fali off some, though they are good in and around Paso Rohles, and they are not so good untii Chualar is reached. North of there the crops are very good again all the way to San Francisco. In and ahout Salinas the yieid of grain is extraordinarily heavy."

Santa Barbara.

CREAMERY REPORT.—Lompoc *Journal*, Aug. 12: At the monthiy meeting of the directors of the Lompoc Creamery Co. the foreman of the creamery reported the milk receipts for the month of July, 265,645 lhs. Butter sold, 11,892 lhs. Net cash receipts, $2212.76.

MUSTARD THRESHING.—Lompoc *Record*: The threshing of mustard is on most completely. Very many outfits are to he seen at work in the valiey, and the yieid of some crops is surprisingiy good. It is thought that the yield of this section may reach 20,000 hags. This is the only piace on this coast where there is any mustard grown worth mentioning.

Santa Clara.

CANNERY ITEMS.—San Jose *Mercury*, Aug. 12: At the Los Gatos cannery several thousand hoxes of fruit come in every day, and wagons, iaden with fruit, are in line all day long waiting to unload. The warehouse is full of canned fruits, and in the yards around the warehouse and cannery building are stacked up thousands upon thousands of cans of fruit. The cannery is running now on peaches, pears and piums, and the empioyes work tiii nearly 12 o'clock every night. Ahout 50,000 cans are put up daily.

Solano.

BEET HARVEST.—Dixon *Tribune*, Aug. 11: Notwithstanding rumors to the contrary, Manager Sammon advises us that the heet crop in this section will be harvested. It must he admitted that the outlook for a profitahle crop is not encouraging, hut the results of the experiment wiii only he known when the tests are made. Several of the fieids appear to he covered with healthy beets, hut it is feared that the percentage of sugar wiii he low as a result of the dryness of the soii. Nearly every fieid of the plants has developed the presence of pests which destroy the ieaves and hurrow into the tops of the heets, causing them to wither and dry up. The results of the tests that are to he made soon wiii be watched with considerahle interest, as there are many farmers here who are unwilling to helieve that the prospective failure of this year's crop is due to anything hut the unfavorahieness of the present season. This year has proved to be one especially adapted to the production of grain, hut the distrihution of the season's rains has heen most peculiar; and whiie there was sufficient moisture to mature the immense crop of grain that has heen harvested, the heets have suffered for its iack. With our usuai rainfall, there is every reason to heiieve that heet growing may be made a success.

Sonoma.

POULTRYMEN'S MEETING.—Petaiuma *Courier*, Aug. 9: The Petaluma Peuitry Keepers' Protective Association met in regular session with a good attendance. President S. S. Peck was in the chair. Much routine husiness was transacted, and the "questioned" dealings of some of the San Francisco commission men were made a speciai topic of discussion for the meeting. It was resolved that aii memhers of the Association who are not squareiy treated hy the commission men in future hand a written statement of the transaction to the secretary of the Association so that the other memhers can profit hy his experience and act accordingly. A paper hy R. Hiatt on the suhject of "Lice on Chicks," was read hy Secretary Johnson. Several remedies secured hy him after continued experiments were presented.

Sutter.

WAREHOUSES FULL. — Yuba City *Farmer*, Aug. 11: In this county the large crop of grain has filled the warehouses full to overflowing, for fuiiy 90% of the farmers are storing this year with the determination of hoiding their grain.

BROOM CORN HARVEST.—*Farmer*, Aug. 11: Supervisor Hoke will hegin harvesting his hroom corn crop on Butte slough in ahout two weeks. He expects to have ahout forty tons of choice product, which is quoted in San Francisco from $80 to $90 per ton. Considerahle difficulty is being experienced this season in securing help to harvest the crop.

Tehama.

WINERY BURNED.—Red Biuff, Aug. 9.—The winery of George M. Stoll was hurned, together with several hundred gaiions of wine. The loss is estimated at $3500, with insurance of $1300.

PECULIARITY IN WHEAT.—Red Bluff *News*: The Golden Gate Club wheat seeded in this county and now heing harvested is developing unusuai characteristics this year. Ordinariiy the meshes of this variety have two rows, hut in many instances this year they have five; and where there have heretofore been fifteen kernals to the head there are fifty this year. Another thing which this grain has surprised the farmers with this year is that where hefore usually the extreme top and hottom kernals have heen empty, this time they are full and weil developed. Whiie the farmers may helieve the conditions of the season have produced these effects, yet it would he a good idea for those who intend to plant this variety next year to lay aside sufficient sacks to seed their acres, hecause the improved condition of the wheat this year may he repeated the seasons following.

Tulare.

HALF A MILLION SQUIRRELS KILLED.—Visalia, Aug. 11: The Board of Supervisors today allowed claims for 8000 squirrei tails at 3 cents per tail. The hounty law has heen in force in this county two years. During that time 535,000 talls have been paid for at a cost to the county of $11,200.

OREGON.

FLAX EXPERIMENT. — Portland *Oregonian*, Aug. 10: Ed Holloway, a Morrow county farmer, has brought some specimens of eastern Oregon flaxseed to Portland, which experts pronounce first class. The crop, however, did not turn out weii as to quantity, the season having heen unusuaiiy favorahie. The piants in most cases bore a good amount of seed, hut were so short that the header couid not gather them. The farmers as a whole, however, have come out even in their first experiment in flax raising, and are satisfied that there is more money in it than in wheat, and that the fiax plants stand the dry periods better. The plants were doing very weii until the hot winds of June struck them and stopped their growth. Ahout 3000 acres of flax were planted this season in Morrow, Gilliam and Klickitat counties, and Portland parties interested in its propagation estimate the yieid of 1899 at ten husheis to the acre on an average.

WASHINGTON.

OUTLOOK FOR WHEAT.—Seattle *Post-Intelligencer*, Aug. 10: Wheat harvesting is in full hiast in the southeastern part of the State, and the first carload of the new crop is expected in Seattle almost any day. Cutting and threshing are going on in the Walla Walla district, have commenced in the Palouse, and hy next week wiii he running fuli time; and in the Big Bend the farmers are expecting to get a fine start by Monday. Within a month most of the crop wiii he in the warehouses and on the way to market. Dealers and exporters have ceased speculating much about the prohahie yieid, and have come to the impression that the crop this year will be iittle less in quantity than in 1898. The quaiity wiii, however, he poorer, owing to the hot weather and winds which came with hiighting effect. The grain did not mature so early as usuai on account of the iate winter and spring frosts, which necessitated resowing some of the fali planting. There is, however, generally helieved to he enough greater acreage this year to nearly offset the less yieid to the acre, though some dealers hold that so much was sown to harley and oats as to materially reduce the total. In any event it is helieved that the yield wiii be ahout 17,000,000 or 18,000,000 bushels, which was ahout that of 1898.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

At Little Cost.

It was only a sunny smile,
And little it cost in the giving,
But it scattered the night
Like morning light
And made the day worth living.
Through life's dull warp a woof it wove
In shining colors of light and love,
And the angels smiled as they watched above,
Yet little it cost in giving.

It was only a kindly word,
And a word that was lightly spoken,
Yet not vain,
For it stilled the pain
Of a heart that was nearly broken.
It strengthened a fate beset by fears
And groping blindly through mists of tears
For light to brighten the coming years,
Although it was lightly spoken.

It was only a helping hand,
And it seemed of little availing,
But its clasp was warm,
And it saved from harm
A brother whose strength was failing.
Its touch was tender as angel's wings,
But it rolled the stone from the hidden springs
And pointed the way to higher things,
Though it seemed of little availing.

The Hand of Fate.

CHAPTER I.

At the French opera, Rene Poulaine pointed out to his companion the beautiful face he had seen the evening before, and the sight of which had so disturbed his thoughts for the past few hours.

"Ah!" said his friend, "your judgment is to commended. She is, indeed, a beautiful girl. That is Miss Guerant—Bijou Guerant."

"Guerant!" echoed Rene, opening wider his dark eyes.

"Yes, the only daughter of Theodore Guerant, a wealthy cotton planter some miles up the river, I do not know how far, but will make inquiries, if the case demands it. By Jupiter! What's the matter?"

For Rene's lips had parted in astonishment, a wave of color swept suddenly over his handsome face, when it grew quite pale.

"What's wrong?" asked his companion, again noting the young man's discomfiture.

"Nothing," stammered Rene, slowly collecting his scattered thoughts—"nothing," he repeated musingly, "except that the plantation on which she lives is situated just across the Mississippi from my home at Grand Crescent Plantation. Her father and mine are deadly enemies," he added quietly, after a little pause, looking across the sea of faces to the only one that seemed within his range of vision.

For the next day or two Rene Poulaine was a very unhappy young man. He had made up his mind to banish Bijou Guerant entirely from his thoughts, and had only succeeded in thinking of nothing but her.

Many entertainments were at hand. In antebellum days, the month of December was always gay in gay New Orleans.

The wealthy sugar and cotton planters and their families, from along the rich delta of the Mississippi, had laid aside their crops, and were congregated in the Crescent City for the purpose of enjoying life to its utmost, and of gathering from French opera, bal masque, and numerous entertainments, some compensation for the rather isolated and monotonous existence led for the previous months on their remote plantations.

At first Rene decided that he would forego the next social entertainment that was given, and thus escape the spell of this young girl's presence, and after deciding thus, went.

"My dear Mr. Poulaine!" his very next hostess exclaimed graciously, when he presented himself, "I have reserved one of the most charming guests of the evening, to whom you are to make yourself agreeable," and straightway conducted him into Bijou Guerant's presence.

"It is the hand of Fate," muttered the young man.

Gayety succeeded gayety, and Rene Poulaine found himself getting the more hopelessly involved in the silken meshes Fate was persistently weaving about him. He likened himself to a man in a quicksand, where every effort at release made him sink the deeper.

He tried to reason calmly over the affair—as if hot-blooded youth could reason calmly—and told himself repeatedly that it was a hopeless love he was nourishing; that her father would never consent to a Poulaine for his son-in-law, that his own parents would doubtless bitterly oppose such a marriage.

The Guerants and Poulaines had been enemies for more than a quarter of a century. The half of the plantation, on which the Guerants now lived, had once belonged to his father's patrimony, and had been lost to Theodore Guerant at the gaming table, Rene had been told. It was said that this mother was once engaged to Theodore Guerant, yet on the eve of the marriage Rene's father had persuaded her to elope with him.

Only unhappiness, and perchance, misfortune, might come of this love affair. Rene gave his heart these husks to feed upon, time after time, yet loved the more determinedly and persistently, and when the gay season was at an end Rene and Bijou had plighted their troth, in the face of many possible difficulties.

A few weeks later Rene Poulaine's light skiff danced many times across the moonlit or starlit water of the Mississippi, that lay between Grand Crescent Plantation and that of Serpent Bend, on the opposite shore, the home of Bijou Guerant.

On the southern edge of the peninsula, which constituted Serpent Bend, there was a stretch of low bar, deeply fringed with water willows, and at this retired spot Bijou and her trusted maid awaited Rene's coming, whenever a prearranged signal was given and answered from the two opposite shores.

Finally in early March the trysting place of the lovers was discovered by Theodore Guerant, who came unexpectedly upon the young couple, strolling along in the moonlight, unmindful of the future, happy only in the present.

"So you are trying to rob me of a daughter, as your father once robbed me of a wife!" cried Theodore Guerant, pale with anger.

"I love your daughter, sir, honorably, devotedly," the young man answered boldly. "We have met thus, because we knew of the enmity that has long existed between the two families, and we feared you would not consent to our meeting otherwise."

"And neither will I!" cried the father, angrily. "I would rather my daughter were dead than married to a Poulaine."

"I am not to blame," said Rene, humbly.

"Like father, like son," the elder man quoted. "Your father was a scoundrel, likely you are one."

The hot blood mounted to Rene's head, but the thought of Bijou, trembling at his side, and the detaining pressure of her hand made him bite his lips in silence.

"If I do not marry a Poulaine, father, I will never marry any other man," declared Bijou, with a sudden show of her father's spirit.

"Then you will live a spinster all your days," answered Theodore Guerant, firmly.

"If my father treated you unjustly, why should I suffer for the wrong?" urged Rene.

"Because it is the hand of Fate," answered Theodore Guerant, sternly. "I have long waited an opportunity for revenge. It has at last come to me. Your father stole my sweetheart from me; now I will take yours from you. I should like to see the son of Jules Poulaine suffer as I have done. Ha! Ha! It is sweet justice!"

"But, think a moment," insisted Rene, calmly, his eyes resting tenderly on the young girl by his side. "Am I the only one who will suffer through your anger."

"If she suffers for such a cause, she deserves her punishment," answered the father coldly.

"I beg of you to give your consent to our marriage," pleaded Rene, still hoping against hope. "Let old differences be forgotten."

Theodore Guerant broke into a harsh laugh. He stood silent a moment, looking across the broad expanse of moonlit waters, to where the light of Grand Crescent Plantation glimmered faintly in the distance, and recalled to mind the beautiful woman who dwelt there, and for whose fair hand both he and Jules Poulaine were once rivals, and Jules Poulaine secured the prize when Theodore Guerant was on the very eve of marrying her, and now the son of Jules Poulaine and this fickle woman was pleading for happiness at the hand of Theodore Guerant.

Surely, surely, there was the working of Fate in all this.

"Father, do not withhold your consent to our marriage," begged Bijou.

Theodore Guerant stood silent, thinking over all the past, then, at last, he waved his hand toward the great broad-flowing river that lay between them and the further shore; then he spoke:

"As long as the Mississippi flows between this plantation and yonder one I will not give my consent to your marriage!"

"Father! Father! Do not say that!" cried Bijou piteously.

"I have said it," answered Theodore Guerant firmly, "and it shall be so."

The father caught Bijou by the arm and led her away, while the frightened maid followed silently after them. Rene, with clenched hands and despairing heart, stood motionless in the moonlight, and watched the three disappear into the shadows of the cottonwood grove that lay between the river and the plantation house.

CHAPTER II.

The rainy season was at had.

The Mississippi had been gradually rising since early February, as was its usual custom, but now its volume largely increased, while reports from along the great tributaries, which had swollen by heavy spring rains and the melting of snows, warned the inhabitants along the lower banks of a threatened flood.

Grand Crescent Plantation was situated along a bluff and was safe from an overflow, but that of Serpent Bend, which was lower, and protected by a levee, might be in danger should the river rise higher.

Rene watched it anxiously. Not a word had he heard from Bijou since that memorable parting on the shore, but finally he learned that she was kept a close prisoner by her father.

The river, hour by hour, increased its mighty volume.

One morning the news was brought Rene that a break in the levee had occurred during the night, near the narrow neck of Serpent Bend Plantation, which was being rapidly flooded.

With the aid of his fieldglass and higher point of observation, Rene soon saw that the report was true. The lower lands of the peninsula were beginning to look like a vast inland sea, and on the upper banks of the levee he could make out a line of black objects, like a swarm of gnats, and he understood that all the hands on Serpent Bend Plantation were desperately fighting the river back to its rightful territory, and striving to mend the break in the embankment.

He also saw, and his heart grew faint at the sight, that unless the flood could be checked the entire lands of the peninsula would soon be under water, and that his beloved was at the mercy of this relentless tide.

He secretly hastened to where his skiff was moored, and prepared to brave the dangers that lay thick between him and that further shore. It was a hazardous undertaking, and it scarcely seemed possible that a light skiff could live amid such turbulent billows, but soon the frail bark was dancing like an eggshell on the troubled bosom of the broad river, and, with heroic effort, Rene slowly fought his way into the stream, keeping a sharp lookout to avoid the dangerous drift that was on its swift way to the ocean.

Once his skiff was directly in the way of a great tree, bearing down upon him, its bare, knotted limbs rising and falling with the waves like a hydra-headed monster, swimming in his direction.

Rene strove to turn his skiff aside, to hold it back, to avoid the threatening danger, but his efforts were powerless, and the frail boat seemed to seek destruction, as a bird that is fascinated by a serpent.

On, on came the monster, seeking its prey, and when there seemed no possibility of escape, Rene gave one yearning glance toward the opposite shore, then bravely resigned himself to his fate. Yet there came no fatal crash, no rush of angry water over him.

He heard only a light rasping sound against the side of the skiff, and when he looked about him in surprise, the great tree, caught by a counter-current, was slowly swinging away, its smaller branches lightly scraping the side of the boat.

With renewed courage be began to pull stoutly on the ores, and, after a fierce battle with the waves, he at last reached the shores of Serpent Bend Plantation, and, securing his boat, ran swiftly toward the house.

It seemed deserted. Even the negro quarters, some little distance beyond, appeared uninhabited. A gruesome silence hung over the place. It was likely every soul was on the levee, helping to fight the flood.

Rene looked anxiously about him a moment; then went into the house. Its deserted halls and rooms oppressed him, as he went through them calling loudly: "Bijou! Bijou!"

Did he hear a reply? It seemed so, yet it came to him as faintly as though an echo.

He called again, still louder, and listened eagerly.

Yes, there came a reply—he was not mistaken. It was Bijou's voice, and she was calling him. His heart gave a leap for joy when he heard his name uttered, as no other human being had ever uttered it—"Rene! Rene!"

A few moments later he was up the stairs, beating upon the door that shut her from his sight, and soon it gave way beneath his strength.

After the first supreme joy of meeting, Rene urged Bijou to hasten and go with him. There was little time to lose. In a short while the house would be entirely surrounded by water, which was rapidly raising, inch by inch, and every minute was precious.

When Bijou saw the angry waters she clung still closer to Rene and turned pale.

"What of my father?" she asked.

As they stepped out on the lower gallery, they met Theodore Guerant coming in. He was wet and muddy and pale from the loss of sleep and anxiety.

"How came you here?" demanded he sternly, taking no notice of the hand Rene held out to him.

"I have come for Bijou," said the young man simply. "I came across in my skiff. I thought you needed assistance.

"Not from you," answered the planter, grimly.

"He risked his life to come here for me—for us," corrected Bijou. "He saw we needed help."

"I need help, but not from a Poulaine," said Theodore Guerant sternly. "It is useless to fight the river longer," he added, turning to his daughter. "The break in the levee is rapidly widening. We cannot mend it. In a little while the plantation will be under water. We must leave here."

"My skiff is waiting," said Rene.

"Come with me!" the father said to Bijou, taking no notice of the young man. "We must reach the highest point of the lee, while there is yet time, and wait for a passing steamboat to rescue us."

"If I go it must be with Rene," said Bijou, firmly. "Dear father, go with us!" she added entreatingly.

At that moment a negro man came

running swiftly from the direction of the north levee. "The levee is melting away like sugar!" he shouted.

"Come!" cried Rene, imperatively, "we cannot delay!"

He caught Bijou by the hand and started in the direction of the skiff.

Theodore Guerant stood hesitating—the roar of the angry waters in his ears, the rushing of tumultuous memories in his heart.

As he stood thus, a second messenger came swiftly upon the footsteps of the first, and he had stranger news to tell.

The mighty Mississippi had cut through the narrow neck of the peninsula, scarcely a mile across, and would no longer trail, like a gigantic serpent, around three sides of the plantation, as it had formerly done. Almost within the short space of an hour the resistless flood had gnawed its way through the yielding narrow strip of earth that lay between its sinuous curves.

Rene's face lighted with a great joy when he heard this strange news. He turned quickly to Theodore Guerant.

"You can now no longer withhold your consent to our marriage!" cried Rene, joyfully. "Fate has ordained it. Do you hear what the man has said? The great Mississippi has changed its course, and the two plantations are no longer divided by it. Soon only a crescent-shaped lake will show where the old river bed once existed. From this hour all danger to Serpent Bend Plantation has passed. The new channel will speedily lead off the surplus waters that are threatening it. Bijou, dear love, no longer does the wide Mississippi and a father's anger separate us. You are mine!"

Theodore Guerant stood for a while silent, like one dazed, then he said slowly:

"It is the hand of Fate!"

"And the hand of God rules fate," added Bijou reverently, looking up into Rene's lovelit eyes.—Henry Cleveland Wood.

He Returned the Compliment.

A young man and a young woman are leaning over the front gate. They are lovers. It is moonlight. He is loth to leave, as the parting is the last. He is about to go away. She is reluctant to see him depart. They swing on the gate.

"I'll never forget you," he says; "and if death should claim me, my last thought will be of you."

"I'll be true to you," she sobs. "I'll never see anybody else or love anybody else as long as I live."

They part. Six years later he returns. His sweetheart of former years has married. They meet at a party. She has changed greatly. Between dances the recognition takes place.

"Let me see," she muses, with her fan beating a tatoo on her pretty hand, "was it you or your brother who was my old sweetheart?"

"Really I don't know," he says. "Probably my father."

TEACHER—Who was the wisest man?

Johnny—Solomon.

"That's right. Now, who was the strongest man?"

"Jonah."

"Wrong. But what reason have you for thinking that Jonah was the strongest man?"

"'Cause the whale couldn't hold him after it got him down."

THE old Greeks said that a man had two ears and one mouth, that he might hear twice and speak once; and there is a great deal of good sense in it. You will find that if you will simply hold your peace you will pass over nine out of ten of the provocations of life.—Henry Ward Beecher.

"I KNOW now how corned beef is made, grandpa."

"How?"

"I saw a man giving the cows rock salt."

A FRIENDSHIP which makes the least noise is very often most useful; for which reason I should prefer a prudent friend to a zealous one.—Budgell.

Friendship.

A ruddy drop of manly blood
The surging sea outweighs;
The world uncertain comes and goes
The lover rooted stays.
I fancied he was fled,
And after many a year
Glowed unexhausted kindliness
Like daily sunrise there.
My careful heart was free again,
O friend, my bosom said,
Through thee alone the sky is arched,
Through thee the rose is red;
All things through thee take nobler form
And look beyond the earth;
The mill round of our fate appears
A sun path in thy worth!
Me, too, thy nobleness has taught
To master my despair.
The fountains of my hidden life
Are through thy friendship fair.

—Emerson.

Nice Points in Serving Fruit.

Strawberries should be washed before removing the hulls, and currants left on their stems. Place a few at a time in a colander, pour cold water gently over them, and drain on a soft towel. Strawberries to be eaten from the stem should be dipped in water again and again and shaken carefully.

Use a small stiff brush and cold water for cleaning oranges and lemons.

Never slice or chop pineapples that are to be served without cooking. Pare and cut out every black speck with a silver fruit knife; then, commencing at the top, with the knife or a silver fork, pull the fruit in small strips from the outer edge to the core.

A rich, simple syrup made of granulated or loaf sugar is good for sweetening fresh fruit to be eaten with cake, bread, biscuit or the like.

A syrup made of one part water to two parts red currant juice gives a tart flavor that is very improving to red raspberries.

The last-named syrup gives color and richness to tart cherries, but a more natural flavor is obtained by simmering the cherry pits fifteen minutes and making a syrup of the strained liquid.

These syrups must never be turned over the fruit very cold.

Add the syrup to raspberries when they are sent to the table; let strawberries stand fifteen minutes and cherries and pineapples half an hour.

If peaches are not full ripe, pour the syrup over and let them stand in the the refrigerator an hour before they are served; and if the fruit is rather insipid, flavor the syrup with lemon juice, almond or vanilla extract.

Cleaning Wall Paper.

It is not always desirable or possible to repaper a room where the wall paper has been soiled in a few places. To be able to clean such paper without injuring the gloss and general effect would be a great relief to many a housewife. This can be accomplished without much difficulty. The method of procedure is to take four ounces of pumice stone in the finely powdered form and mix it with one quart of flour. When the two have been mixed with the hands, add enough water to knead the mass into a thick dough. Form the mass into several rolls about as long as the width of each strip of wall paper, and 2 inches in diameter. Wrap some white cotton cloth around each roll, stir it in place, and then boil about three-quarters of an hour. By that time the dough rolls are firm, and the cloth covering can be removed. These rolls of hardened flour and pumice stone are then used for rubbing over the soiled portions of the paper. Not only will ordinary dirt spots be removed, but grease will be obsorbed by the rolls. After the rubbing, the paper should be dusted off carefully with a clean cloth, and, if any dirt remains, the process should be repeated. This removes dirt much better than the bread process.

He husbands best his life, that freely gives
It for the public good; he rightly lives,
That nobly dies; 'tis greatest mastery,
Not to be fond to live, nor fear to die
On just occasion; he that (in ease) despises
Life, earns it best; but he that overprizes
His dearest blood, when honor bids him die,
Steals but a life and lives by robbery.

—Quarles.

DOMESTIC ECONOMY.

Hints to Housekeepers.

The new Dewey rose is dainty and exquisite enough for a bridal bouquet. It suggests the La France rose in shape, but is as delicate in color as the tea rose, the tint deepening in its heart. Its special characteristic is a peculiar waxen effect that would give it a touch of stiffness except for the beautiful curves of its petals.

To make a delicious sauce for cherry cobbler will require three-fourths of a cup of sugar, one-half cup of butter and one scant tablespoonful of flour. Braid them together until smooth, then pour over this enough boiling water to thin it, and let it boil, being careful to stir frequently so that it will not burn or become lumpy.

Cherry sandwiches may now be made from the fresh fruit, instead of those that have been in use during the winter made from the candied variety. Too juicy a cherry should not be selected. They are stoned, sprinkled with sugar and a dash of lemon juice before being spread between thin and crustless oblong slices of bread.

Cherry tapioca is made by soaking four tablespoonfuls of tapioca in a pint of water over night. Take a pint of stoned cherries, add their juice to the tapioca, stir in a pint of water and enough sugar to make it sweet, and boil gently for fifteen minutes. Add the fruit and boil fifteen minutes more. When cool set on the ice and serve very cold with whipped or plain cream.

With the crusade against dirt, visible and invisible, the cane-seated chairs should come in for their share of attention. They require a vigorous scrubbing with brush and warm suds to which a little household ammonia has been added. Scrub both sides of the seat, rinse well and dry in the open air. Willow chairs are benefited by a bath in warm salt water. If they have lost their natural color, it is said that a solution of chlorine will restore it.

Javelle water is excellent for white goods, and may be made at home or purchased at the druggist's. A good rule for making it calls for four pounds of washing soda, dissolved in four quarts of soft water. Boil ten minutes, take from the fire and add one pound of chloride of lime. Cool quickly, bottle and keep tightly corked. This is strong, and must be handled with extreme care. Peach stains are the hardest of all fruit stains to remove, but a weak solution of chloride of lime, with indefinite patience in its application, will frequently effect the desired result.

Remember that to keep your tablecloths in good condition the coffee and tea stains must be looked after carefully. Place the spot over a bowl and pour boiling water through it so that it will strike the stain with some force. When the stain is an old one and dried in, it must soak in the boiling water. And don't be afraid of the water. You cannot take out the stain with a pint or a quart. Have plenty of it. Chocolate stains require cold water at first, but if washed in chloride of lime, must be used with great care. Boiling water takes out fruit stains and wine stains also after the place has been covered with salt. The French woman drops a pinch of salt on the tablecloth as soon as she discovers one. Never use hot water for blood stains, but warm with soap. The sun will take out scorch marks either when the linen is put out on a platter and covered about an inch deep with water, or put in the sun dry.

With the frequent service of fruits, the table linen is apt to suffer. Before sending to the laundry the tablecloths and napkins should be carefully examined and the spots removed, as soap sets the stains. Most fruit stains, taken in season, can be easily removed from linen by putting the stained portion over a bowl and pouring a stream of boiling water through it. When the spots are obstinate, however, acids must be used. This part of the work should always be done under the supervision of the mistress, to see that all needful precautions are taken to prevent destroying the fabric itself. Oxalic acid, allowing three ounces of the crystals to one pint of water, will be found useful to be kept on hand for this especial purpose. Wet the stain with the solution, and hold over hot water or in the sun. The instant the spot disappears rinse well. Wet the stain with ammonia, then rinse again. This will many times save linen.

Domestic Hints.

FUDGE. — Three cups sugar, one-fourth pound chocolate, one cup milk, two ounces butter. Vanilla. Boil ten minutes, or until it makes a soft ball when tried in cold water. Then set kettle into pan of cold water and beat until creamy. Pour into pan and cut into squares when cold.

LEMON CREAM. — Soak one tablespoonful of gelatine in one-half cup of cold water. Scald together one cup of sugar, one cup of water, the thin yellow peel of one lemon and the juice of three. Add the soaked gelatine, stir until dissolved, and then strain. When cool and beginning to thicken, add one cupful of whipped cream; pour into a mold and place on the ice.

GREEN GOOSEBERRY PUDDING.—Boil a pint of gooseberries until soft, and sweeten to taste. When quite cold mix in thoroughly four well-beaten eggs and one ounce of butter. Butter a mold, sprinkle thickly with equal parts of sugar and fine breadcrumbs, pour in the gooseberries carefully, so as not to disturb the casing, cover the top nearly half an inch thick with crumbs and sugar, and bake an hour. When taken from the oven cover with a cloth until needed. Turn out and serve with whipped cream. When green gooseberries are not in season the pudding may be made with canned fruit.

MACAROON ICE CREAM. — A simple and delicious frozen dainty with the plain ice cream as a basis. To a quart of pure cream take three-quarters of a cupful of sugar and flavor with vanilla. Mix and freeze as directed for plain ice cream. When half frozen, add six ounces of stale macaroons which have been slightly browned or dried in the oven, then crumbled fine, and, if desired, add also a tablespoonful of maraschino or sherry and finish freezing. Another way to give the flavor of the maraschino is to pour a small teaspoonful of the liquor over each portion of the cream when serving.

CREAMY OMELET. — Beat four eggs slightly with a spoon till you can take up a spoonful. Add half a saltspoonful of pepper, four tablespoonfuls of milk or cream, and mix well. Butter a hot omelet pan, and before the butter browns turn in the mixture. Then with the point of a fork pick or lift up the cooked egg from the center and let the uncooked egg run under. This leaves the butter on the pan, and is better than stirring. Continue the lifting until the whole is of a soft, creamy consistency; then add half a teaspoon salt, place it over a hotter part of the fire to brown slightly; fold and turn out on a hot oval dish.

IF you look at a dozen common lamp-chimneys, and then at Macbeth's "pearl top" or "pearl glass," you will see the differences—all but one—they break from heat; Macbeth's don't; you can't see that.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 16, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Sept.	Dec.
Wednesday	68⅝@69⅜	71⅛@71⅝
Thursday	69¼@68⅞	71⅛@71⅝
Friday	69¼@71⅛	71⅛@73¼
Saturday	69⅛@71⅛	72⅝@73⅜
Monday	71⅛@71⅞	73⅝@74⅜
Tuesday	71¼@70⅛	73⅝@72¼

Liverpool Futnres.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 8½d	5s 9⅞d
Thursday	5s 8⅞d	5s 10⅜d
Friday	5s 8⅞d	5s 10¼d
Saturday	5s 9¼d	5s 10⅜d
Monday	5s 10⅜d	5s 11⅞d
Tuesday	5s 9⅝d	5s 11⅜d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 09¾@1 10¼	1 14⅜@1 14¼
Friday	1 10¼@1 11⅞	1 15 @1 17
Saturday	1 11⅜@1 12⅞	1 17½@1 18
Monday	1 12½@1 14⅜	1 18¾@1 19
Tuesday	1 12⅜@1 11⅜	1 17¼@1 15⅞
Wednesday	1 12 @1 12¼	1 16⅞@1 17⅜

Wheat.

Both the spot and speculative markets have shown improvement the past week, but more particularly the speculative market, which advanced in this center 4@5c per cental, while spot values did not show quotable improvement of over 25c per ton. While a portion of the advance in futures has been lost, the market for options is still materially higher than at date of last review. Chicago shows an advance of about 2c per bushel, as compared with a week ago. Liverpool is 2c per bushel higher for futures, and 1c per cental above the rates of a week ago for spot wheat. The speculative market to-day (Wednesday) is firmer and shows a recovery of fully a cent over yesterday's closing figures.

It was announced in this column last week that the prospects were favorable for the wheat market sooner or later showing improved conditions, but that there would be any material improvement within a few days, as subsequently developed, did not then appear probable. The Government report showing a decrease of 8 1-10 points in the condition of spring wheat, making the probable yield of the same in the United States not over 225,000,000 bushels, warranted a much more marked advance than occurred. The only reason that, on the strength of such bullish news, prices did not advance more briskly and two or three times as much, is presented in the fact that the wheat supply of the country is largely in the hands of the growers. Neither the shippers, the millers, nor the speculators on the short side of the market, want to see prices advance at present, and their combined effort to bear values is difficult to wholly overcome. Based on probable supplies and probable requirements, and the experience of a series of years, No. 1 shipping wheat should to-day be cheap at $1.25 delivered at ship's side, still nothing near this figure is at this date obtainable. If this and more is not realized before the close of this season, it will be because buyers in this country and Europe have steadily resisted an advance on account of not having been able to secure enough wheat at any one time to make it to their interest to advance prices. The winter wheat crop of the United States is estimated at 275,000,000 bushels. With the spring crop at 225,000,000 bushels, a very liberal estimate, the total yield is only 500,000,000 bushels. Carry-over stock is stated to be 100,000,000 bushels, making a total of 600,000,000 bushels, or 18,000,000 short tons, of which 12,000,000 tons will be needed for home consumption, leaving only 6,000,000 tons for export, with likelihood of there being foreign demand for more than this amount. California alone produced in 1880 1,700,000 tons of wheat, and in 1879 and 1884 the yields were nearly as heavy. In four consecutive seasons —from 1888-89 to 1891-92 inclusive—the annual exports from this State exceeded 650,000 tons, and in the season of 1881-82 an excess of 1,125,000 tons of wheat was shipped from California at an average price of $1.62½ per cental, the total value on the manifests of the wheat exported that season being $36,924,000.

California Milling	$1 05 @1 10
Cal. No. 1 shipping, alongside	1 02½@1 05
Oregon Valley	1 02½@1 07½
Walla Walla Blue Stem	1 05 @1 10
Walla Walla Club	1 00 @1 05
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

Decemher, 1899, delivery, $1.09¾@1.14⅜.

May, 1900, delivery, $1.14¼@1.19.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.12@1.12¼; May, 1900, 1.16⅞@1.17⅜.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s7½d@6s8d	6s0¼d@6s1¼d
Freight rates	26¼@27½s	33¾@—s
Local market	$1.20@1.25	$1.03¾@1.06¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

While there is naturally a better tone to the flour market, in sympathy with wheat, quotable values for flour are no higher than last noted. There is less cutting of rates than a week or two ago, but there is still considerable flour selling for less than full current figures. Stocks are liberal in this center for this time of year, and, as for some time past, are largely the product of mills outside of this State.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

In the way of exports of this cereal, there has been a more active movement than preceding week. Two more barley clearances were made for Europe on Saturday last. The British ship London Hill took a full cargo of 74,357 centals, valued at $81,800. The Italian bark Mario cleared with 35,771 centals barley, with a valuation of $34,000, the two shipments showing a total of 5500 tons, value $115,800. Both cargoes are destined for United Kingdom. Two more ships—the Cypromene and Belfast—departed yesterday for above destination with barley cargoes, carrying an aggregate of 6300 tons, value $138,536. Another ship cleared same day with 2930 tons. Barley shipments to Europe for the fortnight foot up 20,300 tons, representing a value of $431,300. While market has not been active, there has been more inquiry, both for shipment and on local account, than for preceding week, and slightly better prices were obtainable, more particularly for high-grade barley. The proportion of offerings which can be termed choice to select is not heavy. Barley which is very foul or is badly shrunken, or shows a heavy percentage of broken kernels on account of having been too closely thrashed, does not command materially better figures than last quoted, the supply of this low-grade stock being sufficiently large, as compared with the demand, to give buyers the advantage. Trading on Call Board was of quite fair proportions, as compared with a fortnight or more previous, with speculative values at a little higher range than had been ruling.

Feed, No. 1 to choice	82½@ 85
Feed, fair to good	80 @ 82½
Brewing, No. 1 to choice, new	90 @ 97½
Chevalier, No. 1 to choice	1 17½@1 22½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 84¼@82¼c.

December, 1899, delivery, 86¼@83¼c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 83@83¼c; seller 1899, new, 82c bid.

Oats.

Beyond a little better demand for colored oats, more particularly for Red, than during preceding week, the market has developed no important changes since former review. Choice to select White oats remain in light stock, and market for same continues favorable to sellers. Surprise oats are still scarce, there being virtually none offering from first hands. Grays are also in exceedingly limited supply, and must continue so until new crop begins to arrive from the North in quotable quantity. Reds are offering more freely at present than any other sort, and, at the prices ruling for the same, buyers are getting exceedingly good value for their money.

White Oats, fancy feed	1 32½@1 35
White, good to choice	1 20 @1 27½
White, poor to fair	1 05 @1 10
Gray, common to choice	1 10 @1 25
Milling	1 30 @1 40
Surprise, good to choice	1 35 @1 45
Black Russian	97½@1 10
Red	97½@1 12½

Corn.

Market for Eastern product has been showing an easy tone, with prices at primary points more favorable to buying interest than experienced for many months. It is true, the decline was not very marked, but there are likely to be further reductions in quotable rates in the near future, accompanied by increased offerings. Domestic Small Yellow is in such slim supply that there is little other than retail rates upon which to base quotations for the same. There is nothing very definite obtainable at present concerning the coming crop in this State, but it will undoubtedly prove light.

Large White, good to choice	1 10 @1 12½
Large Yellow	1 07½@1 10
Small Yellow	1 40 @ —
Eastern Mixed	1 02½@1 05

Rye.

There are no evidences of much movement, but market shows steadiness of values. Changes in the near future are more apt to be to firmer than to easier figures. Shippers bid 90c for No. 1 delivered at Port Costa.

Good to choice, new	92½@ 97½

Buckwheat.

With market practically bare of offerings, there is little other than recent asking rates upon which to base quotations. New crop Buckwheat is expected to put in an appearance the current month.

Good to choice	2 50 @ —
Silverskin	— @ —

Beans.

Not much activity has been experienced the past week in beans of any sort. Quotable values have been without appreciable change, but to have effected ready sales of Bayos and Pinks the acceptance of lower figures than quoted would have been necessary, the absence of strength being more pronounced on these two varieties than on any other descriptions. White beans were as a rule steadily held, with stocks of most kinds of rather small volume, Lady Washingtons being about the only exception, and supplies of these cannot be termed very heavy, especially when it is considered that the coming yield of this variety in this State will be much lighter than was the last. The coming crop of Limas will also be below the average for a number of years past, owing to reduced acreage.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 70 @1 80
Butter, small	3 75 @4 00
Butter, large	—@—
Pinks	2 25 @2 35
Bayos, good to choice	1 70 @1 85
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	4 15 @4 25
Horse Beans	—@—
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Advices of recent date by mail from New York City give the following review of the bean market, prices quoted being per 60-lb. bushel:

We have had a very dull market this week, and while receivers have made quite a determined effort to maintain former values, there has been slight yielding in some cases, and most kinds will average a little lower than a week ago. Last week's purchases of Marrow for export have not been followed by further business, and jobbers not needing much stock at this season of year, have refrained from buying. For a few fancy marks $1.47½ has been obtained in a peddling way, but some choice lots have sold at $1.45. Perhaps the general asking rate for fancy Medium and Pea has been $1.35 most of the week; but, failing to move the stock at that, $1.32½ has been named for the past few days, and it is now easy to buy at that; possibly $1.30 would be accepted for carlots. Exporters have been able to fill most of their orders for Red Kidney at $1.67½, and choice stock is now offering freely at that. Rather more White Kidney arriving, and, with a very limited outlet, prices have eased off about 5c. Yellow Eye and Turtle Soup exceedingly dull. Lima held about steady but quiet at $2.77½@2.80. Green Peas in light receipt and prices fairly sustained; but Scotch are more in buyers' favor.

Dried Peas.

Aside from a few in the hands of small jobbers and retailers, there are none on the market at present. Values in the wholesale market are wholly nominal.

Green Peas, California	2 30 @2 40
Niles Peas	2 00 @2 10

Wool.

There is the same quiet condition in the local market as previously noted, but there is no weakness to record. If offerings were sufficiently liberal to enable wholesale operators to make up desirable lines, there would doubtless be a fair amount of business doing, and at fully as good figures, relatively, as have been current at any time during the past three or four months. Small quantities of fall clip have been placed at prices on a parity with recent values for spring fleeces. Fall wool is not yet quotable in a regular way, but probably will be in a week or two. As is invariably the case, the fall clip will have to depend mainly on local scourers for a market, as there is very little of the same suitable for shipment in the grease. Most of the scourers are now sufficiently ahead on their orders for spring wools to be able to start in on fall stock in wholesale fashion.

SPRING.

Humboldt and Mendocino	15 @18
Northern Sacramento Valley, free	12 @14
Northern Sacramento Valley, defective	9 @11
San Joaquin foothill, free	10 @12½
San Joaquin foothill, defective	8 @10
San Joaquin plains and southern, 7 mos.	—@—
San Joaquin plains and southern, 12 mos.	7 @10
Nevada, as to condition	10 @14
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @18

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	—@—
Plains, defective	—@—

Hops.

With stocks in the hands of growers practically nil at this date, so far as hops of 1898 crop are concerned, and very few now remaining in the hands of either jobbers or brewers, the prospects for the marketing of this year's crop appear to be first-class. Much will depend, however, on the quantity and quality of the crop in Europe, as a foreign demand of goodly proportions is necessary for a healthy market in this country. The United States produce a much greater amount than required for domestic use. Recent advices as to conditions abroad do not report the yards in bad shape as a rule in either England or Germany. It is generally supposed that the crop now maturing in this country will meet with a market at 13@16c, and if the acceptance of no lower figures is necessary the growers may consider themselves fortunate. Last year's crop on this coast is given at 152,000 bales, and less than 1000 bales of the same now on hand.

Good to choice, 1898 crop	12 @16

A New York authority publishes under late date the following concerning the hop market:

Four weeks from now picking will begin on the new crop, and the yards are being watched with interest, as these are the days when the enemies of hops do their worst damage. In some sections of this State lice are reported, but not in sufficient quantity to cause serious apprehension, unless weather conditions should prove particularly favorable to rapid increase. The yards are not looking very well, on the whole; they are irregular, with a good many weak vines. Our correspondents generally predict a lighter crop than last year—possibly 25% less—and the quality is doubtful. Conditions on the Pacific coast are unchanged; some vermin reported, but spraying has been resorted to and not much damage as yet. Growers feel some confidence in future values and not many of them are willing to contract. Pretty full reports have been received from England, and the outlook continues very favorable; no reliable estimates of the yield are possible at this writing, but indications point strongly to a considerable increase over 1898. Our local market is devoid of anything that is calculated to change either the tone or prices. Business is very slack, and the lower qualities remaining in first hands make our outside quotations appear extreme.

Hay and Straw.

Arrivals of hay have continued large, causing the market throughout to remain unfavorable to sellers, although the proportion of receipts of grain hay was not so heavy as it had been, Alfalfa or Cow hay cutting a more prominent figure in the quantity of hay which has been recently coming forward. Of the grain hay arriving a very considerable quantity the past week has been compressed for export. The latter sort has been lately in good request at relatively better figures than large bales or loose pressed hay, but the increased offerings this week of compressed caused the market for same to present an easier tone.

Wheat	7 00@ 9 00
Wheat and Oat	7 00@ 8 50
Oat	6 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	—@—
Compressed	8 00@10 00
Straw, ₱ bale	25@ 40

Millstuffs.

There have been no noteworthy fluctuations in values for mill feed of any sort since last review, although the general tendency of the market was more favorable to the buying interest than otherwise.

Bran, ₱ ton	16 00@16 50
Middlings	18 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	18 50@19 00
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

Values continue to be poorly defined, with next to nothing doing in this line. Small quantities of new crop Mustard have been received, but buyers and sellers have been too far apart in their views for much business to result. New crop Flaxseed was also on the market in small quantity, the quality being only fair. No sales were reported.

	Per ctl.
Mustard, Trieste	3 00@3 25
Mustard, Yellow	2 75@3 00
Flax	—@—

	Per lb.
Canary	3½@ —
Rape	3 @4
Hemp	4¼@4½
Alfalfa, Utah	—@ —

Bags and Bagging.

Prices for Grain Bags have been further advanced within the week, the overdue bag ship Macduff, with 4,000,000 bags aboard for Oregon, remaining unreported. Reinsurance on this vessel's cargo has been advanced to 50 per cent. A few San Quentin bags were offered at an eighth to a quarter cent under the figures now asked for Calcuttas. Other bags ruled steady. Wool Sacks were in fair request.

Calcutta Grain Bags	7½@—
San Francisco Grain bags, 22x36, spot	7⅜@—
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5½@ 6

Hides, Pelts and Tallow.

Quotable rates and the general features of this market are practically as last noted. There is a very good demand for Hides, Pelts and Tallow at the prevailing figures.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from gruhs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	10@10½	9@ 9½
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 11 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

The crop has proven exceedingly light. Market is firm at the quotations, the demand for best qualities being greater at existing rates than is the supply.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-₱ frames	11½@12½
Amber Comb	8 @10

Beeswax.

Only light quantities offering, and this is likely to be the case throughout the season. Market is unfavorable to buyers.

Good to choice, light, ₱ lb	26½@27
Dark	25 @26

Live Stock and Meats.

The supply of Beef was not heavy, but with demand only moderate, there was enough for requirements. Prices for Mutton were well sustained at the quoted range, with inquiry increasing. Veal and Lamb brought good figures. Hogs sold at about same range as last quoted, but demand was mostly for immediate use, prices being too high for packers.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 7@—c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5¾@ 6
Hogs, small, fat	5¾@ 6
Hogs, large hard	5¾@ 5½
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	10 @11
Veal, large, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8½@ 9

Poultry.

The market showed much the same general condition as immediately prior to last review, lack of firmness for old stock continuing a prominent feature, owing to free receipts of Eastern poultry. Sales of large Eastern Chickens were mainly at $5 50@6.00 per doz. Young stock was in fair request, but about the only sort of poultry which could be said to meet with a good market was extra large and fine young fowls, such bringing an advance on quotable values.

Turkeys, young, ₱ lb	15	@	17
Turkeys, live hens, ₱ lb	11	@	13
Turkeys, live gobblers	11	@	13
Hens, Cal., ₱ doz	3 50	@5	00
Roosters, old	4 00	@4	25
Roosters, young, (full-grown)	4 50	@6	00
Fryers	4 00	@4	50
Broilers, large	3 00	@3	50
Broilers, small	2 50	@3	00
Ducks, ₱ doz	3 00	@5	00
Geese, ₱ pair	1 25	@1	50
Goslings, ₱ pair	1 50	@1	75
Pigeons, Old, ₱ doz	1 50	@1	75
Pigeons, Young	1 50	@1	75

Butter.

There bas been further hardening of prices for fresh butter, with no heavy supplies, especially of choice to select. No trouble is being experienced in maintaining values at the new range, but attempts to establish higher rates would be apt to be followed by accumulations. Retailers are now charging 50c per square for choice creamery, and most consumers do not seriously object to this figure, but should the price require the breaking of the big end of a dollar, many would turn to packed butter, either domestic or Eastern.

Creamery extras, ₱ lb	24	@—
Creamery firsts	23	@—
Creamery seconds	22	@—
Dairy select	21	@22
Dairy seconds	17	@19
Dairy, soft and weedy	—	@—
Mixed store	14	@15
Creamery in tubs	18	@20
Pickled Roll	18	@20
Firkin, Cal., choice to select	18	@20
Firkin, common to fair	15	@16

Cheese.

There are no heavy stocks of domestic product, and market is firm at former range of prices, especially for best qualities. Eastern cheese is not in heavy supply and values for the imported article are being sustained.

California fancy flat, new	10	@—
California, good to choice	9	@ 9½
California, fair to good	8	@ 8½
California Cheddar		—@—
California, "Young Americas"	9	@11

Eggs.

While the market was not quotably higher, it was decidedly firm at selling rates for choice to select stock, and any changes in prices in the near future for strictly fresh eggs are almost certain to be to better figures. Common qualities are plentiful, more particularly Eastern, and are offering down to 12½c and less.

California, select, large white and fresh	23	@—
California, select, irregular color & size	20	@22
California, good to choice store	17	@19
Eastern, as to section and grading	15	@19
Eastern, cold storage	—	@—

Vegetables.

The Onion market is more favorable to buyers than preceding week, but is far from being in demoralized condition. Over 10,000 crates were forwarded the past week to Australia. Other vegetables in season were in the main in liberal supply, and prices were without important changes, remaining close to the low range last quoted.

Asparagus, fancy, ₱ box	—@	—
Asparagus, No. 1, ₱ box	—@	—
Asparagus, common to fair, ₱ box	—@	—
Beans, Wax, ₱ lb	1½@	2½
Beans, String, ₱ sack	50@	1 00
Beans, Lima, ₱ lb	3@	3½
Cabbage, choice garden, ₱ 100	50@	60
Cauliflower, ₱ doz	50@	—
Corn, Alameda, ₱ crate	75@	1 25
Corn, Green, ₱ sack	25@	75
Corn, Berkeley, ₱ crate	40@	75
Cucumbers, Alameda, ₱ large box	20@	35
Cucumbers, ₱ small box	—@	—
Egg Plant, ₱ box	30@	50
Garlic, new, ₱ lb	2@	3
Mushrooms, Buttons, ₱ lb	—@	—
Mushrooms, wild, ₱ box	—@	—
Okra, Green, ₱ box	25@	50
Onions, Yellow, good to choice, cental	90@	1 10
Onions, New Red, ₱ cental	—@	—
Peas, Sweet, Garden, ₱ lb	3@	4
Peas, common, ₱ lb	1½@	2½
Peppers, Green Chile, ₱ box	35@	50
Peppers, Bell, ₱ large box	35@	50
Rhubarb, ₱ box	—@	—
Squash, Bay, ₱ large box	15	30
Squash, Marrowfat, ₱ ton	—@	—
Squash, Summer, ₱ small box	—@	—
Tomatoes, Bay, ₱ large box	25@	50
Tomatoes, ₱ small box	15@	25

Potatoes.

Demand has been less urgent, especially on shipping account, than for some weeks preceding, and with receipts on the increase, the market has naturally presented an easier tone. The tendency in favor of buyers was, however, more pronounced on common qualities than on choice to select stock.

Burbanks, River, ₱ cental	—	@ —
Burbanks, Bay counties, ₱ ctl	—	@ —
Burbanks, Humboldt	—	@ —
Early Rose	75	@1 00
Garnet Chile	90	@1 00
Burbanks, ₱ cental	90	@1 05
Sweet River, ₱ cental	2 00	@2 25
Sweet Merced	—	@ —

The Fruit Market.

Fresh Fruits.

The usual mid-Summer glut of fresh fruits is being experienced on the San Francisco dock, the condition of the market being perhaps a little worse than in most of the previous seasons, owing to almost total lack of competition between wholesale buyers and very limited wholesale demand. The cannery interests bad only three buyers in the field, or more correctly speaking, there are only two canneries here which are outside of the trust. Neither of them bought to any noteworthy extent, as they were running largely on contracted fruit, besides the canners were all handicapped, more particularly those outside of the trust, by shortage of cans, owing to the strike of the tin plate makers in the East. The glut was largely of Peaches and Plums, and no great proportion was suitable for canning, unless to make seconds and pie fruit. Especially were common Cling Peaches a drug, such failing to meet with noteworthy wholesale custom at $10.00 per ton and less. The lack of wholesale canning demand for fruit was deplorable and caused much loss, but if this had been remedied, there would still have been a great waste of fruit on account of its inferiority. The interests of growers would have been much better served if this poor fruit had never been shipped, or if no efforts had been made to market it. Choice fruit, in every way desirable for shipment, was not in heavy stock, and in not a few instances brought higher figures than were warranted as quotations for the average run of offerings.

Apricots, good to choice Royal, ₱ ton	—@	—
Apricots, Royal, ₱ box	—@	—
Apricots, Pringle, ₱ box	—@	—
Apples, fancy, ₱ 50-lb. box	—@	—
Apples, good to choice, ₱ 50-lb. box	75@	90
Apples, Green, common to fair, ₱ 50-lb. box	25@	50
Blackberries, ₱ chest	3 00@	4 50
Cantaloupes, ₱ crate	50@	1 25
Cantaloupes, Nutmeg, ₱ crate	40@	75
Cherries, Black, ₱ box	—@	—
Cherries, Red, ₱ box	—@	—
Cherries, Royal Anne, ₱ box	—@	—
Cherries, White, ₱ box	—@	—
Crabapples, ₱ small box	35@	60
Currants, ₱ chest	—@	—
Figs, Black, 2-tier box	50@	75
Figs, Black, ₱ drawer	35@	50
Gooseberries, ₱ lb	—@	—
Gooseberries, ₱ 10-lb box	—@	—
Grapes, Black, ₱ crate	50@	85
Grapes, Fontainebleau, ₱ crate	25@	50
Grapes, Muscat, ₱ crate	50@	85
Grapes, Tokay, ₱ box, 50@75c; ₱ crate	60@	85
Grapes, Seedless, ₱ box, 50@65; ₱ crate	60@	75
Grapes, Isabella, @ crate	1 50@	2 00
Logan Berries, ₱ chest	7 00@	8 00
Nectarines, Red, ₱ box	40@	65
Nectarines, White, ₱ box	30@	50
Peaches, fancy wrapped, ₱ box	40@	50
Peaches, ₱ box	20@	40
Pears, Bartlett, No. 1 to choice, ₱ ton	25 00@	35 00
Pears, Bartlett, ₱ 40-lb. box, wrapped	65@	1 25
Pears, common, ₱ basket	20@	40
Pears, ordinary, ₱ box	20@	60
Plums, large, ₱ ton	15 00@	—
Plums, large, ₱ crate	50@	65
Plums, ₱ box	25@	50
Plums, Cherry, ₱ drawer	—@	—
Raspberries, ₱ crate	—@	—
Raspberries, ₱ chest	5 00@	7 00
Strawberries, Longworth, ₱ chest	5 00@	7 00
Strawberries, Large, ₱ chest	2 50@	4 00
Watermelons, ₱ 100	4 00@	15 00
Wbortleberries, ₱ lb	5@	7

Dried Fruits.

Apricots continue in active request, with market stiff at the current quotations. It is doubtful if there are at present 100 carloads of this fruit unpiaced in the entire State, and the small quantity remaining for this time of year is principally in the southern section. Peaches are offering freely, with market weak and lower, as anticipated in former review. Eastern buyers are holding back, most of them having enough stock to tide them over a few weeks or longer, and enabling them to temporarily stand off and await developments. Local dealers are taking advantage of the condition and are proceeding very cautiously. It looks very much as though Peaches would drop to lower figures than are warranted, and then slowly recover later on. If this condition does not develop, it will be because of lighter selling pressure than is now threatened. Values for Peaches have suffered a quotable reduction of fully half a cent per lb. the current week. Apple market is quotably unchanged, with light stocks, but is not firm, owing to prospects of Eastern product being landed here in liberal quantity a little later on at figures not to exceed those now current for home product, the Eastern grading higher than domestic. Pears have not yet appeared upon the market in quotable quantity, and will without doubt be in light stock throughout the season. Plums do not give evidence of being cured in heavy quantity, but demand for them is not likely to prove particularly active, except at quite reasonable figures. New Prunes are expected on market at an early day, as they are now being cured. Prices for new Prunes are not expected to vary materially from figures now current on last year's product. Stocks remaining of 1898 Prunes are light.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	9½@11
Apricots, Royal, fancy	11½@12½
Apricots, Moorpark	13 @14
Apples, in 50-lb. boxes, rings, pressed, fancy	—@—
Apples, 50-lb. boxes, rings, pressed, fair to good	7 @ 7½
Figs, White, fancy pressed	—@—
Peaches, unpeeled, good to choice	5½@ 7
Peaches, unpeeled, fancy	—@—
Peaches, peeled, in boxes	—@—
Pears, unpeeled Bartletts, halved, fancy	—@—
Pears, halved, unpeeled Bartletts	—@—
Pears, quartered, unpeeled Bartletts	—@—
Plums, pitted	5 @ 6
Prunes, in sacks, 40—50's	7 @—
50—60's	4¾@ 5
60—70's	3¾@ 4
70—80's	3 @ 3¼
80—90's	2¾@ 3
90—100's	2½@ 2¾
110—130's	2 @ 2¼
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.	
4 sizes Santa Claras and equal	3¼@—
4 sizes San Joaquin and Northern	3 @—
Prunes, Silver	4 @ 7

COMMON SUN-DRIED.

Apples, sliced	4@ 5
Apples, quartered	4@ 5
Figs, Black	2@ 3
Figs, White	—@—
Peaches, unpeeled	—@—

Advices of recent date by mail from New York City give the following review of the dried fruit market in the East:

The usual dullness incident to midsummer may still be noted, and for much of the stock values are more or less nominal. Evaporated apples do not move beyond current jobbing requirements, but the offerings are light and the figures quoted cover such sales as are making. Interest in futures has revived again, and bids on prime quality, October and November delivery, have been raised to 7½c, at which some transactions are reported, including several carloads of Canadian stock. There is a good deal of interest in the growing crop, as the extent of the yield will have a strong bearing on the future of the market. So far as we can hear, the prospects have been brightening, and growers are predicting a good many more apples than last year. The West looks particularly well. Last year was such a successful season, that many of the driers are planning to largely increase their capacity. Chops, cores and skins do not have much attention at present. There is some inquiry for new sun-dried apples, and it looks as if the first lots would bring somewhere from 4½c to 6c as to quality. Raspberries quiet and weaker; would not bring over 11½c, and we hear that some prime new evaporated have been bought to arrive for a little less. One or two small lots of new huckleberries are here and held at 10½c. Blackberries slow. Buyers paid 9½c for new cherries, and the few barrels received have not lacked custom. California new apricots arriving slowly as yet and selling at 11½@12c for boxes and 11@11¼c for bags; further business on the Coast at 9½@10¼c. No new peaches have arrived; recent Coast sales at 8@8½c for unpeeled. Prunes dragging and feeling easy; late quotations asked, but buyers for round lots could secure concessions; some transactions on the Coast in new at 3@3¼c for four sizes, and at 5@5¼c for 40s, 50s and 60s, equal quantity of each.

Apricots, Cal. Moorpark, 1898, per lb	13	@15
Apricots, Cal. Royal, 1898, per lb	12	@13
Peaches, Cal., 1898, unpeeled, per lb	9	@12
Prunes, Cal., 1898, per lb	3	@ 8

Raisins.

Stocks are being steadily reduced within range of unchanged quotations, and the supply now remaining in the hands of the Association is of quite moderate volume. The coming crop bids fair to be comparatively light, being estimated at 2500 to 3000 carloads. The market presents a generally improved appearance.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—@—
Dehesa Clusters, per box	—@—
Fancy Clusters, per box	—@—
London layers, 3-crown, 20-lb box	—@1 20
London layers, 2-crown, 20-lb box	—@1 10
Valencia layers, ₱ 20-lb box	80@1 00
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	5¼@5¾
Loose Muscatel, 3-crown	4¾@4¾
Loose Muscatel, 2-crown	—@—
Loose Muscatel, ungraded	—@—
Sultanas, unbleached	—@—
Seedless Muscatel	—@—
Thompson's Seedless, unbleached	—@6
(Above prices for loose raisins are for 50-lb boxes.)	
Dried Grapes	2½@2¾

Citrus Fruits.

Orange market is practically bare of offerings. Lemons are in about as liberal supply as for some weeks past, and are selling at unchanged figures; but with warmer weather there has been a better demand, mainly for selected, overhauled and repacked stock. Limes were in fair supply and were offered at previous rates.

Oranges—Navels, ₱ box	—@—	
Mediterranean Sweets	—@—	
Late Valencias	—@—	
Lemons—Cal., select, ₱ box	2 50@	3 00
Cal., good to choice	1 50@	2 00
Cal., common to good	75@	1 50
Limes—Mexican, ₱ box	4 00@	4 50
Cal., small box	75@	1 00

Nuts.

The wholesale market is bare of Almonds and Walnuts and values are undefined. The Almond crop in most sections is turning out 25% to 50% lighter than was first estimated. The Walnut crop is not yet out of danger and is therefore undetermined. Peanuts remain in light stock.

California Almonds, paper shell, ₱ lb	—	@—
California Almonds, soft shell	—	@—
California Almonds, hard shell	7	@ 9
California Almonds, shelled	—	@—
Walnuts White, paper shell	—	@—
Walnuts White, soft shell	—	@—
Walnuts White, Cal., standard	9	@10
Chestnuts, Cal. Italian	—	@—
Peanuts, Cal., fair to prime	5½@	6
Peanuts, Eastern hand-picked	6	@ 7
Pine Nuts	5	@ 8

Wine.

There are no changes to note in quotable rates or the general tone of the market. Trade in a wholesale way is light, with not much wine now in first hands and very little immediate inquiry. New claret is quotable at 15@20c per gallon, as to quality, quantity and other conditions. Receipts of wine in San Francisco last month were 807,175 gallons, as against 733,570 gallons for July, 1898. Receipts for the seven months of the year ended August 1st were 9,922,416 gallons, and for corresponding period in 1898 were 8,503,422 gallons.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

California Dried Fruit at New York.

NEW YORK, Aug. 16.—California dried fruits: Market quiet; unchanged. Evaporated apples, common, 6½@7½c; prime wire tray, 8¼@8½c; choice, 8¾@9c; fancy, 9¼@9½c.

Prunes, 3¼@8c.

Apricots, Royal, 13@14c; Moorpark, 15@16c.

Peaches, unpeeled, 11@11½c; peeled, —@—c.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year
Flour, ¼-sks	161,941	671,506	552,006
Wheat, ctls	48,298	610,007	318,776
Barley, ctls	232,602	817,051	139,196
Oats, ctls	7,910	78,021	42,070
Corn, ctls	4,890	18,530	13,120
Rye, ctls	720	27,739	2,995
Beans, sks	2,348	29,117	15,805
Potatoes, sks	21,232	96,999	123,305
Onions, sks	9,969	25,872	32,131
Hay, tons	4,221	21,450	21,519
Wool, bales	649	11,299	8,513
Hops, bales	80	692	418

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	114,820	399,783	306,224
Wheat, ctls	437	421,680	200,316
Barley, ctls	124,703	457,038	28,508
Oats, ctls	886	4,673	3,422
Corn, ctls	679	2,206	2,661
Beans, sks	1,272	3,079	4,222
Hay, bales	1,756	11,413	5,461
Wool, lbs	....	28,006	488,690
Hops, lbs	2,165	11,573	81,094
Honey, cases	124	331	252
Potatoes, pkgs	2,110	6,478	5,429

USEFUL TO KNOW.

Drugs, Chemicals, Strychnine, Phosphorous, Caustic Soda, Carbon Bisulphide, Paris Green and Lows Bait Oil at bottom prices.

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"Out-O-Sight" Gopher Trap

to catch when all other traps fail. *Send 25 cents* for a sample by mail, or have your dealer order for you. Don't wait; gophers are active.

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BECAUSE they are made on correct principles, therefore give the best results. The Menzel Hardware Co. of Santa Clara, Cal., state that "they have put up a large number of pumps of all kinds this season, but yours give us and our customers the best satisfaction."

I. L. BURTON MACHINE WORKS. 115-117 First St., San Francisco, Cal., will give full particulars and furnish estimates of pumps run with gasoline or steam engines. Horse powers or windmills—complete plants. Closing out stock of second-hand gasoline engines, 1 to 20 H. P.

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Hawaiian Island Volcanoes.

The eruption of Mauna Loa and Kilauea now in progress on the island of Hawaii make the geological structure of those islands of unusual interest at this time. Capt. C. E. Dutton, in the fourth annual report of the United States Geological Survey gives a lengthy and interesting description of the Hawaiian volcanoes. The following is from that report:

There are twelve islands in the Hawaiian group, all of them volcanic. Four of them are mere barren rocks, four are large islands, the remaining four being inferior in size but habitable. All of the large ones are lofty and mountainous. The culminating peaks of the island of Hawaii, the largest and most southerly of the group, are Mauna Loa, 13,700 feet, and Mauna Kea, 13,900 feet. The summit of Haleakala, on East Maui, is 10,350 feet in altitude. All of these elevations are in relation to sea level. Hawaii is ninety by seventy-four miles and contains 3950 square miles; Maui is forty-eight by thirty miles, and Oahu is forty-six by twenty-five miles. The city of Hololulu is on the southerly side of the latter island.

Soundings about the various islands have determined that these volcanic piles are only the summits of gigantic mountains rising above a comparatively level region on the floor of the Pacific ocean. These soundings have determined that the slopes of the mountains as seen above sea level continue at slightly increased angle for a distance of thirty to fifty miles from the shore and range from 14,000 feet to 19,000 feet in height before sea level is reached, which on adding the additional altitude above sea level gives them the great altitude of about 30,000 feet.

Mauna Loa (the great mountain) is the largest mass of volcanic material in the world. In other lands there are more lofty volcanic mountains but subterranean rumblings. Those vast jets of steam blown miles high, hurling stones, cinders and lapilli far and wide, so common to volcanic eruptions are almost unknown here. There is something of the sort but only in a feeble sort of way. The lava rises in these craters, and passing over the rim, flows down the mountain slope for miles, and on numerous occasions has reached the sea. The absence of cinder cones is noticeable. Their summits are broad flat tables with deep pits sunken into them.

There are cinder cones at Mauna Kea and on other volcanoes on the north end of the island. All of the lava is basaltic, and contains a large amount of olivine. The entire slope of Mauna Kea is covered with these symmetrical cones, all of which have truncated tops showing the presence of the central crater. Some of them rise to a height of 1000 feet and are about three-quarters of a mile broad at the base. The slope of Mauna Kea varies from twelve to twenty degrees, while that of Mauna Loa is from four to seven degrees. Mauna Loa is wholly built up of successive lava flows and Mauna Kea of fragmental material.

The islands at the northern end of the group have not been disturbed by volcanic eruptions for thousands of years, as evidenced by the lack of fresh lavas. The surface rocks have decayed and disintegrated into soil and the islands are noted for the luxuriance of the tropical vegetation. Even Mauna Kea has been inactive for a long period, and a rank growth of grass clothes the volcano to near its summit. This grass is long and coarse and of light straw color, giving to the mountain a light color, to which is probably due its name.

Scenes in British Columbia.

The head of navigation of the Columbia river in British Columbia is at Salmon Beds. Freight and supplies to the mining region are brought to this point by steamer and shipped by pack trains to the various camps. One of the accompanying engravings shows the Delphine Co.'s train leaving Salmon Beds for the mines, twenty miles distant by trail.



DELPHINE PACK TRAIN LEAVING THE SALMON BEDS, B. C.



BOBBIE BURNS BASIN, MIDDLE FORK, SPILLIMACHENE, B. C.



SINCLAIR HOT SPRINGS, NEAR WINDEMERE, B. C.



SINCLAIR PASS THROUGH THE ROCKIES, NEAR WINDEMERE, B. C.

Columbia. The trail after leaving the landing passes over the summit to the north fork, below Loon lake, thence climbing over another summit into the valley of the middle fork. The distance is about thirty miles, and some points on this fork are at an altitude of 6000 feet or over.

On the middle fork of Spillimachene is Bobbie Burns basin, a wild, rugged, almost treeless tract, surrounded by high, snowclad peaks and ranges above an altitude of 7650 feet.

Near Brewer's ranch, thirteen miles south of Windemere, is a series of hot springs, the waters of which as they leave the ground have a temperature of 90° to 120° Fahr. These springs cover an area of several acres and vary in size. The largest would fill a 3-inch pipe under a 10-foot head. The water carries principally calcium carbonate and iron.

CREAM SEPARATORS.

De Laval "Alpha" and "Baby" Separators.

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Prices $50.- to $800.-

Save $10.- per cow per year. Send for Catalogue.

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Randolph & Canal Sts., CHICAGO. | 74 Cortlandt Street, NEW YORK.

California Frog Ranches.

In California there is said to be more women who are engaged in masculine occupations than in any other section of the United States.

It is at Stege, a little station about twenty miles from San Francisco, that a frog ranch is located, named after the first owner of the land lying roundabout. The Stege ranch extends from the bay shore up to the ridge of the Coast Range of mountains, which encloses both shores of San Francisco bay. In the lower portions of the ranch a great number of springs gush out of the soil in copious volumes. It was the springs that determined the first location of the ranch. The site, overlooking an expansive view of the beautiful bay, was capable of vast improvement. A dozen acres, enclosing the springs, were surrounded with a hedge of cypress. The grounds were laid out with taste and soon presented the rare beauty incident to the profuse vegetation of a semi-tropical climate. Three ponds were formed by confining the waters of the flowing springs, some acres in extent, and stocked with frogs. A fence high enough to prevent the escape of the inmates surrounded each, and the ponds were filled with aquatic plants and mosses. Then hundreds of frogs were placed in the ponds, and from the original stock the increase has been so great that, though thousands are sent to market yearly, the withdrawals have no sensible effect upon the vast numbers remaining. Frog ranching is not unlike cattle raising. There are one, two, three or four-year-olds, though the successful frog raiser will always keep the young ones separate and apart from the full grown, which are cannibals of the first rank, and eat all which are not able to protect themselves. The four-year-olds are considered ripe for the market, though the gourmand in frogs prefers those that are a year or two younger. A frog's life is twelve years. There are some of that age at Stege. They are of monstrous growth, being 14 inches in length and weighing as much as four pounds.

In California, as in colder climates, frogs hibernate in winter, and in the spring emerge after their long sleep emaciated to the last degree. Then they are fed with a mixture of oatmeal and blood, and again at the spawning season, but only for a short time. They are, most of the time, self-sustaining, feeding upon the insects which they cleverly catch.

Like most creatures of the animal world, they are capable of affection for their keeper, and demonstrate it by coming at call and allowing themselves to be handled, showing much delight in being stroked. Placed upon the ground, they readily follow their mistress for a long distance. At night the noise made by the 10,000 frogs which, it is estimated, are contained in the three ponds is tremendous.—Collier's Weekly.

AN ACRE OF CORN

and its possibilities under the Silage system—being the theme of

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The McCormick is "The Best in the World."

Irrigation Congress.

The eighth annual session of the National Irrigation Congress will be held at Missoula, Mont., on the 25th, 26th and 27th of September, and more than usual interest is being already manifested. It is probable that the coming congress will be the most successful ever held. The congress is constituted as follows: Five delegates appointed by the Governor of each State and Territory; one delegate from each city of the United States having a population of less than 25,000, and two from each city with a larger population; one delegate from any regularly organized irrigation, agricultural or horticultural society, society of engineers, irrigation company, agricultural college, or commercial body, duly accredited representative of any foreign nation or colony, any member of the U. S. Senate or House of Representatives, or Governor of a State or Territory, any member of a State or Territorial irrigation commission, or the chairman of each section and the permanent officers of the congress.

Breeders' Directory.

Horses and Cattle.

HOLSTEINS—Winners of every 7 days' butter contest at State Fair 1898 1st & 2nd for aged cows, 4-yr., 3-yr. & 2-yr.-olds; *21 Jerseys & Durhams competing.* 4th year my Holsteins have *beaten* Jerseys for butter. Stock for sale; also pigs. F. H. Burke, 626 Market St., S. F.

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SANTA TERESA POULTRY FARM, Eden Vale, Santa Clara Co., Cal. Illustrated catalogue and guide free. 'Twill interest and please; send for it.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties of Poultry, Dairy Cattle and Hogs.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

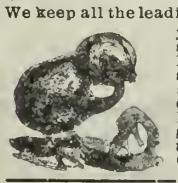
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BERKSHIRE, POLAND-CHINA & DUROC HOGS. Choice; Thoroughbreds. **Wm. Niles & Co.,** Los Angeles, Cal. Established in 1876.

J. P. ASHLEY, Linden, San Joaquin Co., Cal. Breeds Berkshire, Poland-China and Essex Swine.

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lightens the load—shortens the road.

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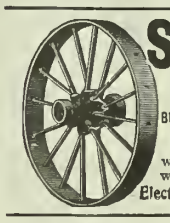
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need a good start to stand the winter; therfore feed them well in the beginning. This will produce hardy plants with plump grain. A good fertilizer should contain plenty of

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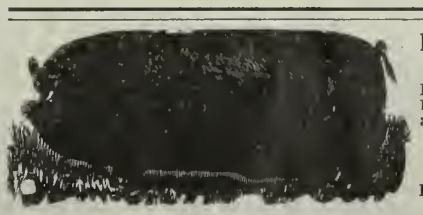
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Furnished by Maj. Henry E. Alvord, of the Animal Bureau, Washington.

New Scale of Points for Bulls and Heifers.

Adopted by the American Jersey Cattle Club at the Annual Meeting, held May 6, 1885.

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		Score.	Score.	Score.	Score.
1—Head small and lean; face dished, broad between the eyes and narrow between the horns	2	2	2	2	1
2—Eyes full and placid; horns small, crumpled and amber colored	1	¾	1	1	1
3—Neck thin, rather long, with clean throat and not heavy at the shoulders	8	7¼	7	7	5
4—Back level to the setting of the tail	1	1	1	1	¾
5—Broad across the loin	6	6	5	6	6
6—Barrel long, hooped, broad and deep at the flank	10	10	7	8	8
7—Hips wide apart; rump long	10	9	8	9	8
8—Legs short	2	2	2	2	2
9—Tail fine, reaching the hocks, with good switch	1	1	1	1	¾
10—Color and mellowness of hide; inside of ears yellow	5	4½	5	4½	3
13—Teats rather large, wide apart and squarely placed	10	8½	10	8	2
15—Disposition quiet	5	5	5	4	5
16—General appearance and apparent constitution	10	10	9	10	9
	71	67	63	63½	52



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25 and 50 cent Bottles.
BEWARE OF IMITATIONS.
BUY ONLY THE GENUINE.
PERRY DAVIS'

Patrons of Husbandry.

San Jose Grange.

According to the *Mercury*, the last meeting of San Jose Grange was well attended, considering the busy season.

A communication was received from the Pomona Grange at Sacramento saying that September 12th had been set aside as Grangers' Day at the State Fair, and it was requested that a list of the names and addresses of the members of the San Jose Grange be forwarded and that as many of the Grange attend the Fair as possible. The Secretary was ordered to send the names.

The subject for discussion was "Bettering the Condition of the California Farmer."

G. W. Worthen spoke at some length enumerating several ways where improvements could be made which would help agricultural conditions. He said that it did not often occur that there was a general overproduction for any length of time. It did often occur that in some part of the country there would be a glut, but there was generally a dearth of the product in some other part. The year that this country was sending wheat to Russia, and the report was that they were starving, that same year Russia exported several million dollars' worth of the cereal. A lack of proper distribution causes much trouble to the farmer. This is one of the drawbacks of California to-day.

A rotation of crops would be of vast good to the farmers of this State. The soil is being impoverished because it is constantly drained of some of the essential elements in it. As one of the hopeful prospects for the farmers of this section, he spoke of the great market that is opening up in the Orient.

Speaking of the wastes of the orchard, he mentioned carelessness in the gathering of fruit, throwing it into the picking pails, thereby bruising it and causing it to reach the market in poor condition.

C. W. Childs continued on the same subject, dwelling especially on the rotation of crops and the benefits that are possibie to the farmer thereby in this valley. "We in this valley," said he, "are only raising fruit and hay and have for many years. Much of the hay land has been cropped until the soil has become impoverished and a change would increase fourfold the income of the land." He enumerated several cases in his own section where this had been the case. He thought that the land of Santa Clara valley was too expensive to be used for raising hay.

Speaking of the windfall prunes, Prof. Childs said that the prune growers in his section had found it a saving to leave the inferior fruit on the ground where it was of value as a fertilizer, whereas if they were gathered it cost about 2 cents to get them on the market and the market was spoiled for good fruit. If they are left on the ground they cause the owner no expense and are of value as a fertilizer. This can be done where the orchardist has no animals which will be benefited by feeding, which is the case with most of the prune raisers.

Napa Grange.

Napa Grange intends holding a harvest feast on Saturday, Sept. 2nd, states the *Register*. Each member of the Grange can invite two persons outside of the organization to the feast. M. M. Estee and H. C. Gesford have accepted invitations to be present and will favor those present with after-dinner remarks.

The next Grange meetings in the country schoolhouses will be held at Browns Valley, Monday, Aug. 21st, and at Carneros, Monday, Aug. 28th.

Two applications for membership in the Grange were received.

The following committees on State Grange meeting were appointed: Hotel Committee—Bros. Thompson, Parsons and Francis. Feast Committee—Bros. Renwick and Fossett. Music Committee—Bros. Parsons and Thompson. Literary Committee—Bros. Taylor and Robinson. Reception Committee—Bros. Butler, Johnston and Renwick and Sisters Renwick and McCollom.

The Reception Committee will confer with the Board of Trade at the next meeting of the Board in regard to the holding of a public reception to the State Grange on the evening of Tuesday, Oct. 3rd.

The third and fourth degrees were conferred upon Mr. and Mrs. J. H. Parr.

At the next regular meeting of the Grange, Saturday, Aug. 19th, the subject of "Alfalfa" will be discussed.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING AUGUST 1, 1899.

629,975.—VESSEL-LOADING PLATFORM—C. R. Allen, S. F.
630,164.—CIGAR BAND CUTTER—S. J. Ballard, Los Angeles, Cal.
630,187.—FRUIT EVAPORATOR—B. Cunningham, Liberty, Or.
630,198.—BICYCLE GEAR—A. Doyle, Seattle, Wash.
630,231.—COPY HOLDER—L. Hudgin, Lochiel, Ariz.
630,306.—EQUALIZER—C. R. Murray, S. F.
630,002.—AIR BRAKE SIGNAL—Nethercott & Hersch, Alameda, Cal.
630,097.—BOX PLATE FOR LOOMS—J. H. Northrup, Tustin, Cal.
629,813.—MATCHER HEAD—W. W. Philbrick, Seattle, Wash.
629,814.—MATCHER HEAD—W. W. Philbrick, Seattle, Wash.
630,006.—WAVE POWER—J. Rogowski, S. F.
31,312.—DESIGN—O. H. Greene, Chico, Cal.
31,296.—DESIGN—W. A. Russell, Los Angeles, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

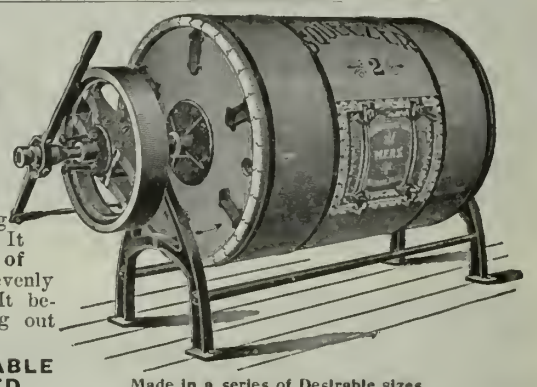
AIR BRAKE SIGNAL.—J. H. Nethercott & J. W. Hersch, Alameda, Cal. No. 630,002. Dated August 1, 1899. This invention relates to improvements in air brake devices. It consists essentially of a chamber containing a whistle or signal controlling valve and interposed between the engineer's valve and the main auxiliary reservoir, with which one end of the chamber is connected, a connection is made between the other end in the train brake pipe whereby a reduction of pressure in the brake valve from any point in the train will operate the valve and actuate the signal without the use of a supplemental signal pipe. In conjunction with this is employed a lock or stop device actuated by the discharge from the engineer's valve so that the signal actuating valve is prevented from moving and the signal from being operated.

PORTABLE VESSEL-LOADING PLATFORM.—Charles R. Allen, San Francisco, Cal. No. 629,975. Dated August 1, 1899. This invention relates to a device which is designed for the loading of vessels from wharves, and is particularly adapted to discharge from wagons directly upon the vessel's deck or into the hold. It consists of a platform, means whereby it is supported above the level of the wharf, an inclined driveway, a means by which it can be detachably connected with the platform, an extension of the platform which is adapted to be projected beyond its edges and over and beyond the edge of the wharf, so that a load can be driven upon the platform, then moved out upon this extension and discharged directly upon the deck or into the hold of the vessel.

WAVE POWER WATER MOVING APPARATUS.—John Rogowski, San Francisco, Cal. No. 630,006. Dated August 1, 1899. This invention relates to a device and apparatus which is especially designed to furnish a supply of water through the action of waves upon a seacoast. It consists of a reservoir or chamber, a pipe leading into the upper portion thereof having a funnel-shaped mouth or opening toward the sea, a pipe leading from the lower portion of the reservoir or chamber, a check valve in the first-named pipe, a valve or gate in advance of said check valve, a discharge pipe connected with the second pipe and a valve controlling the admission of water into said pipe.

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FRUIT MARKETING.

Fruit Prices.

NAPA, Aug. 11.—Peaches, pears and prunes are now occupying the attention of H. R. Borrette and the forty hands he at present employs at the Napa drier. The fruit is being sorted and cut, and about six tons are shipped daily. The following prices are paid: For prunes, $20@22.50 a ton; for pears, $12@25 a ton; for peaches, $12 a ton. The fruit is just beginning to come in, but in a week or so the heavy rush of work will be on. B. B. Smith began on Monday to dry prunes at his drier in East Napa. He says the fruit is very scarce but of excellent quality, bringing from $20@25 a ton. Next week he expects to begin on apples.—Register.

SAN JOSE, Aug. 12.—The fresh fruit market is not in good condition, particularly in fruits for drying. Eastern fruit dealers have delayed placing their orders for prunes so long that dryers have not had any foundation on which to buy the fresh fruit, and now, after a large number of growers have made up their minds that it is better to sell their fruit fresh than to cure it, and with their prunes dropping there are twenty people offering prunes for sale to one who wishes to buy. Prudent, careful dryers have offered from $20 to $27 per ton and it looks as if some growers will take the figures offered. Fruit which ought to be worth $30 is valued by the dryers at about $24. If all who can manage to dry their own fruit do not do so, or have it done by the Unions or professional dryers for them, it looks as if there will be a good many slaughters of fresh fruit. It will be better for one to dry who can and hold the market firm. Peaches have been in a bad way. Shipments to the city have been sold at half the price which could have been obtainted here, and sent back to the country to be dried, and tending to bring down the country fruit to the same level. The canners are full, and working hard to keep from being buried in fruit. We hear of offers to-day of best clings at from $25 to $30 per ton, but crops are going easy at that price.—Tree and Vine.

LOS GATOS, August 15.—The fruit men are all busy and prunes are coming in to the driers in large quantities. Some have larger crops than ever, but a great majority will be disappointed, as they can already determine that their crops will fall short of their expectations. The prunes are very large and it begins to look as if the smaller sizes will be short. Heretofore it has been necessary to have a certain proportion of large prunes in order to sell the small ones, but it is now thought there will not be enough small ones this year to sell the large ones, as buyers always want the four sizes and there will be too many of the larger sizes. The driers say the best offers they can get for dried prunes this year are on a basis of 3½ cents, but they will likely realize more when they come to market them.

A Cleanup at Fresno.

FRESNO, Aug. 10.—There is joy in the hearts of the raisin growers of this county and throughout the valley in consequence of the distribution in cash to members of the California Raisin Growers' Association in settlement of all growers' accounts. The amount distributed will be but little short of $100,000. The year opened with 1000 carloads on hand, and prospects looked gloomy; but the sales have been so heavy that the outlook is for the packing season opening with a bare market, thus assuring good prices and the rapid absorption of this year's crops. The lowest grades of last year's crop brought an average of 2.17 cents a pound, while Imperial clusters brought 8 cents a pound and 5-crown raisins realized 6.3 cents a pound. The Imperial clusters and Sultanas of last year's crop are all gone, and only about 300 of the 1000 carloads are now left on hand. This year's packing season will open unusually late, with a short crop of fair quality. Several new seeders have been erected, and the opening of the packing season will find them ready for business.

Organization in Placer County.

A circular has been issued to the fruit growers of Placer county by the board of directors of the Fruit Growers' Association of Placer County, calling upon them to organize if they would preserve the fruit industry. The circular continues:

"The Fruit Growers' Association of Placer County has decided to secure control of 70% or more of the deciduous fruit and grapes grown in Placer county before attempting to go into the field to better marketing conditions. With that percentage it feels that its members will be safe in placing their fruit at its disposal. With this percentage secured it is highly probable that we will be able to perfect an organization of the entire deciduous fruit industry of northern California during the winter months. There is a strong sentiment throughout the entire territory concerned in favor of general organization along the lines we have adopted."

Condition of Crops.

WASHINGTON, Aug. 11.—The August report of the statistician of the Department of Agriculture shows the following averages of condition on Aug. 1:

Corn, 89.9; spring wheat, 83.6; oats, 90.8; barley, 93.6; spring rye, 89; buckwheat, 93.2; potatoes, 93; timothy hay, 86.7.

The average corn condition improved 3 points during July, and on Aug. 1 it was 3.1 points higher than on the corresponding date last year, 5.7 points higher than on Aug. 1, 1895, and 3.2 points above the mean of the August averages of the last ten years. The averages in the principal States are as follows: Ohio, 90; Indiana, 94; Illinois, 91; Iowa, 82; Missouri, 88; Kansas, 106; Nebraska, 99.

The average condition of spring wheat declined 8.1 points during July, and on Aug. 1 it was 2.9 points lower than at the corresponding date last year, 3.1 points lower than on Aug. 1, 1897, and 0.3 of a point below the mean of the August average for the last ten years. The condition in the principal States is as follows: Minnesota, 90; Iowa, 89; Nebraska, 66; South Dakota, 84; North Dakota, 86; Washington, 85; Oregon, 81.

The average condition of oats improved 0.8 of a point during July, and Aug. 1 it was 6.6 points higher than on the corresponding date last year, 4.8 points higher than on Aug. 1, 1897, and 8.3 points above the mean of the August averages for the last ten years.

The average condition of barley improved 1.6 points during July, and on Aug. 1 was 14.3 points higher than at the corresponding date last year, 6.1 points higher than on Aug. 1, 1897, and 8.6 points above the mean of the August averages for the last ten years. The condition in the principal States is as follows: New York and Minnesota, 90; Wisconsin, 96; Iowa and North Dakota, 94; South Dakota, 89; California, 97.

The average condition of spring rye declined .7 of a point during July, and on Aug. 1 was 4.7 points lower than at the corresponding date last year and .8 of a point lower than on Aug. 1, 1897, but still 1.5 above the mean of the August averages for the last ten years. In Wisconsin the condition on Aug. 1 was 93.

The average condition of potatoes declined .8 of a point during July, but is still 9.1 points higher than on Aug. 1, 1898, 15.1 points higher than at the corresponding date in 1897 and 6.9 points above the mean of the August averages for the past ten years. Of the thirteen principal sweet potato States eight report a decline during July and four an improvement, while in one (North Carolina) the condition remains about the same.

Preliminary returns indicate a reduction of 3.4% in the hay acreage. Of the States mowing 1,000,000 acres or upward last year only Missouri, Kansas, Nebraska, South Dakota and California show an increased acreage. The condition of timothy hay is 12.6 points below that of last year.

There are but few States from which the reports as to the apple crop are not even more favorable than they were last month. There has been a marked improvement in the condition of pastures throughout the New England States, New York, Pennsylvania, Ohio, Kansas, Michigan and Texas. On the other hand, there has been a falling off in condition in Kentucky, Illinois, Iowa, Missouri and throughout the Northwest.

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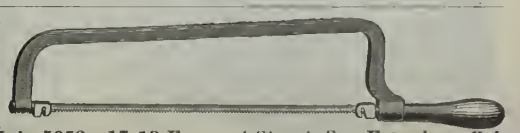
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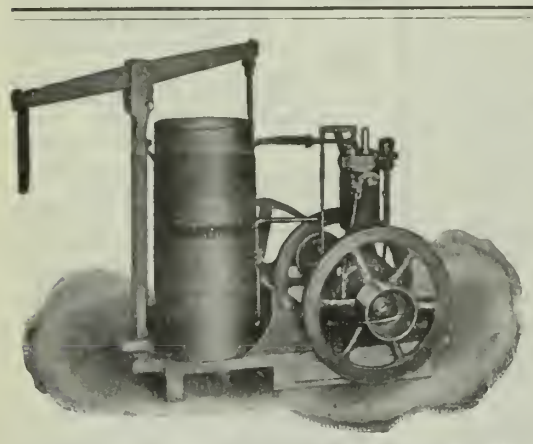
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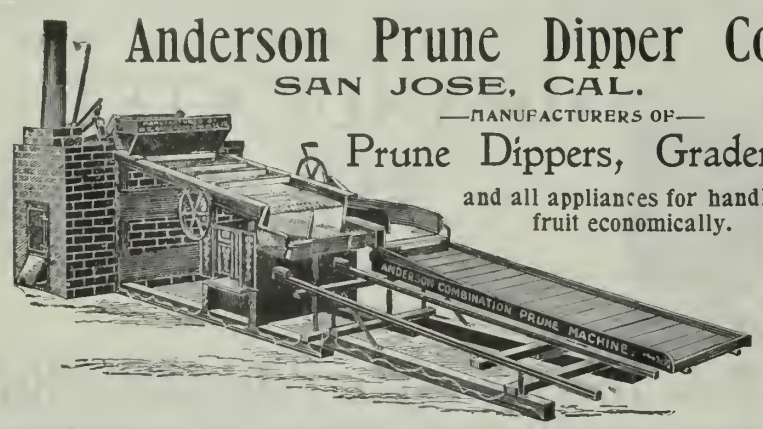
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President and Manager Santa Clara County Fruit Exchange.

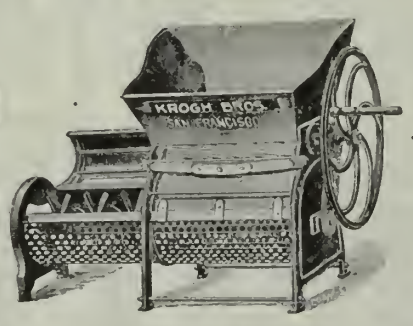
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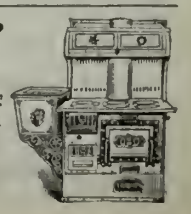
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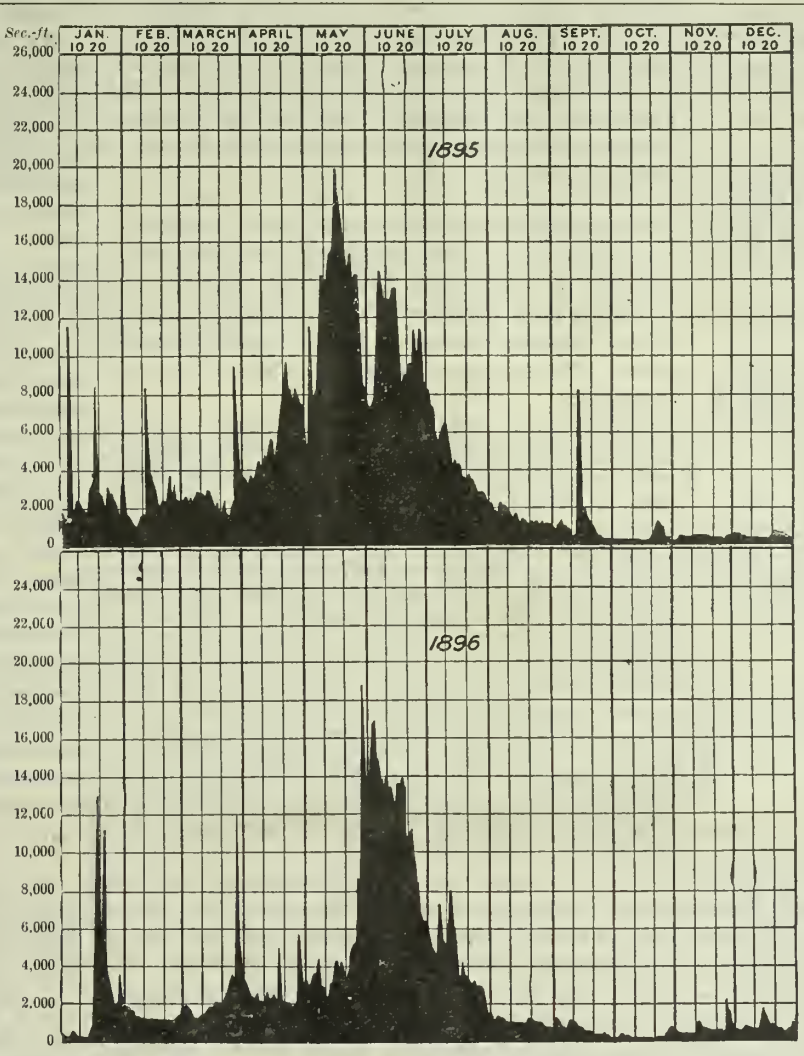
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THE
PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 9 SAN FRANCISCO, SATURDAY, AUGUST 26, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Some Facts About the San Joaquin River.

Some exact statements about the San Joaquin river, one of the great rivers of California, will doubtless be interesting to our readers. During his recent visit to California, Mr. F. H. Newell, hydrograper of the U. S. Geological Survey, gave an interesting lecture, according to previous announcement in our columns, at the Academy of Sciences. Mr. Newell had a large audience and gave them a better idea than they ever had before of the important work which the Geological Survey is doing for this State in the accurate measurements of our river flows, the designation of suitable reservoir sites, etc. One feature to which we wish to draw attention at this time is the river measurement. Unless one can learn accurately the flow of a certain stream, all irrigation schemes predicated upon the water it will supply are to a certain extent visionary. When the year's water flow is accurately known, then the measure of its availability for irrigation can be arrived at. Mr. Newell told in an interesting manner how measurements are made and illustrated the ways in which the measurements are plotted to make them more intelligible. The case we have this week is the San Joaquin river, and for the details of its character and deeds we shall draw upon the writing of our well-known California engineer, Mr. C. E. Grunsky, in Water Supply Papers No. 19, which treats especially of irrigation near Merced. Mr. Grunsky gives a description of the San Joaquin river, which will be widely interesting:



DISCHARGE OF SAN JOAQUIN RIVER AT HERNDON, CAL., 1895-96.

San Joaquin river enters San Joaquin valley from the east at a point about twenty-miles northeast of Fresno, flows southwesterly fifty-five miles to the valley trough, and, entering the lowlands of the Fresno Slough country, turns at Las Juntas abruptly to the northwest and becomes the main drainage channel of the valley. For forty miles below Hamptonville, the point at which the river enters the main valley, its course lies through narrow strips of bottom land hemmed in by bluffs rising to the plains above. These bluffs are generally one-half mile to a mile apart and descend abruptly toward the river from a very smooth-surfaced plain. They gradually decrease in height toward the west, their height being about 60 feet near the eastern edge of the valley and 40 feet near Herndon. Before the river reaches Las Juntas, twenty miles by river below Herndon, the bluffs have disappeared entirely, and the flood waters of the river sweep across country to the southwest into Fresno swamp and to the northwest in a direction down the valley parallel with the river.

Bottom lands of small extent flank the river between its bluffs, but have remained unirrigated. The upland of the main valley plain is so high above the river near the eastern border of the valley that canals to command the upland would be very costly, and none have been constructed, though several have at various times been projected. The diversion of water for irrigation is confined to that portion of the river lying in or near the main valley trough. The area of the river drainage basin above the point where it breaks from the Sierra Nevada is 1637 square miles. This entire area is mountainous. It extends eastward to the summit of the Sierra Nevada, seventy miles of this summit, measured in a direct line, being the eastern limit of the river's drainage basin. The river is ordinarily at its highest stage in the spring months, generally in May and June; but winter freshets are not uncommon, and extreme floods, such as those of 1861-62 and 1867-68, have occurred in winter. The river is ordinarily at a low stage from September to the end of December. It is at a medium stage, with a flow in excess of 1000 second-feet, from January to March and in July and August. It is high from April to July. These periods are, however, to be taken only as a general guide, because the flow of this stream varies within wide limits, according to the varying conditions of rainfall and temperature of each season. During the years 1895-96 the flow was as shown in the diagram. The measurement is in numbers of cubic feet which pass a point in a second of time.

Barley Rolling Outfit.

The accompanying illustration shows a portable barley rolling outfit belonging to Mr. G. S. Williamson of Elk Grove, which has been in use in Sacramento county among the farmers during the past season. The motive power is a 25 H. P. double cylinder vertical gasoline engine, built by the Union Gas Engine Co. of this city. The capacity of this outfit is twenty tons of barley rolled per day. Before the barley rolling season came in Mr. Williamson used the engine for running centrifugal pumps and circular saws. The machinery is very simple and economical, and as it can be taken around the country to different ranches where barley is to be rolled, wood sawed or water pumped, it is a great convenience to the farmer. With suitable gearing the engine might be used for propelling the wagon, but as this would complicate the mechanical part of it somewhat, the owner has thought best to use his horses for drawing the wagon.


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E. J. WICKSON.....Horticultural Editor.

San Francisco, August 26, 1899.

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BUSINESS ANNOUNCEMENTS.

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The Week.

The great event of the week is the return of the California volunteers from Manila. The great transport Sherman is sweeping through the Golden Gate as we write. The whole population of San Francisco, and a good many thousands from the interior, are out to celebrate. The city of San Francisco is in gala attire beyond anything she ever donned before. Everything looks like Christmas and Fourth of July rolled into one. Contributions for the city's garnishing have come from all parts of the State. Far away in the south, Riverside has shorn her beautiful highway palms of their foliage and sent it higher by the carload. Far away in the north, Humboldt county has sent her redwood saplings by shipload. From other distant points all kinds of decorative verdure has come in and nearer supplies have been drawn low. The result is that the principal streets are clad in green and the buildings above well nigh concealed in the national colors. This manifestation now evident is but the exponent of the long and loud welcome which the returning soldiers will be given. Three days are to be filled with parades and three nights with electric and pyrotechnic display and banquets and receptions. Both the land and the waters of the bay are to be rich in spectacular effects—beyond all description: beyond all precedent. The fires of patriotism and honor and affection for the brave never burned more brightly nor assumed such striking manifestations.

The local markets show only minor changes. Wheat recovered just after our last report and advanced a little more than could be held, though still better than a week ago. The fraction is small, but that spot is a shade higher and futures a little more confident, must be accepted as good, so far as they go. Barley is easier, as the brisk export demand has slackened. Rye is still going to Europe. Oats are a little lower. Millfeeds are unchanged and hay seems to have a better tone, owing to smaller receipts. Meat prices are unchanged. Eastern hogs are coming in again to packers, owing to scant local supply. Potatoes have taken a little lower range, but onions are firm, owing to renewed shipping demand to Australia. Canning fruits are looking better again and are promising. There is no material change in dried fruits. Old raisins are still going out and the outlook for value for new raisins is very promising.

Preparations for the State Fair are advancing rapidly and the disposition of the people toward the exhibition seems to be unusually promising. Secretary Shields is showing himself to be an excellent organizer, and he offers attractions which will be both entertaining and instructive. The idea of a silo with the filling machinery in operation is an excellent one and will be very attractive. The holding of a dairy convention at the Fair will enable attendants to put in their leisure time to good advantage. The poultry show promises to be exceptionally good. These are only mentioned as samples, for other departments will be quite as notable. The Fair will be open September 4th and continue until the night of the 16th, and all the time will be full of things to see and hear.

Henry Miller of Miller & Lux gave a Fresno reporter the other day his idea of the live-stock situation, and it is especially interesting because what Mr. Miller does not know about the market aspects of the live-stock interests is hardly worth bothering about. We take the following from Mr. Miller's conversation:

The present conditions arise from two causes—dry winters and hasty sales of stock. Our ranch extends from Firebaugh in this county to near Newman in Stanislaus county—forty-eight miles in a direct line. Last summer it was all stock and no feed, while this year it is all feed and no stock. After the dry winter of 1897-98, owners of sheep, cattle and hogs sold them for whatever they could get. Thousands of animals perished of starvation, and many thousands more were driven over into the neighboring States and Territories, from which they have not been brought back. The hogs fared quite as badly as the sheep and cattle, and where they did not perish for want of feed they were slaughtered and sold. The result is that until favorable winters and the natural increase of stock make up for losses, there will be a scarcity of animals and meat will come high. I think that things will be all right in a year or two, but not till then.

Mr. Miller is too wise to prophesy beyond that, but we are not so gifted with self-control. We believe that, of course, values will shade down, but we do not expect to see them return to the old levels. We believe that the production of good meats is going to do a better business in this State in the future. We believe wise investment in stock and in improvements which will give abundant feed at low cost will be profitable and satisfactory.

California desires to be included in the irrigation work now proceeding under the direction of the Secretary of Agriculture, by Elwood Mead as irrigation expert. A petition directed to Dr. True, Director of the office of Experiment Stations of the Department of Agriculture, asking him to commend the matter to Secretary Wilson's attention, has been quite widely signed and has been forwarded to Washington. The idea is to secure a better knowledge of the facts which seem to underlie any considerable advancement of our irrigation efforts and which are necessary before favoring legislation can be intelligently asked. The petition asks especially that Mr. Mead promote inquiries and secure classified and well-digested data on these points:

First—The amount of water in the streams.
Second—The duty of water in the different irrigation basins.
Third—The claims upon the water, collated by streams and not by counties, as now.
Fourth—The nature of water right titles.
Fifth—The adjudicated claims upon the waters.
Sixth—The lands now irrigated and susceptible of irrigation.
Seventh—The possible increase of water for beneficial use by storage in each system.
Eighth—The extent to which the irrigable area can be increased by better methods of distribution and use.

There has already been appropriation for beginning irrigation work by the Department of Agriculture on a larger scale than hitherto. Mr. Mead has done such things notably well for Wyoming, and his knowledge and experience have been freely drawn upon by the adjacent interior States. California is a rich field to work for irrigation knowledge, and we trust it will be found feasible to go forward on the lines of the petition.

QUERIES AND REPLIES.

Grain Which Will Lodge.

To the Editor:—The best portions of this region consist of reclaimed marsh and tide lands, which are very fertile. We experience considerable loss and difficulty owing to the lodgment of the oats, which, I suppose, is caused by the relative heaviness of the grain compared to the straw. The average good yield is 100 bushels to the acre. Could you recommend any experiment of drilling in with the grain any sort of fertilizer, with a view to strengthening the straw? If there is any way of experimenting to overcome this difficulty, I shall be greatly obliged for any advice you may give me.—Enquirer, Mt. Vernon, Wash.

We know of nothing in the way of application which will do this. Some years ago there was a proclamation by a dealer that he had a preparation of silica which would stiffen up grain; but it was soon shown that grain could not take the diatoms he proposed to sell, and that the soil always contains an ample amount of silica in better form than he offered. Your trouble seems to arise from great fertility, combined with the excessive moisture, with which you have to deal. We mitigate such trouble to a certain extent in this State by later sowing, which forces the grain to make part of its growth while the moisture is less abundant, and under those conditions it stands up well, where by early sowing and growth during the wet season it would be almost sure to lodge. There is considerable difference in the behavior of different varieties. Some varieties have short, stiff straw, and will stand up, where one that is naturally disposed to grow very high will lodge. The seed growers have given much attention to this matter, and you could probably hear of the difference in varieties by conference with some people who have been growing grain under the conditions with which you have to deal. Our problem in this State consists usually in stimulating growth, rather than in endeavoring to repress it, though in wet seasons on our richer lands all grains lodge more or less and some loss ensues.

Late Sulphuring of Vines.

To the Editor:—Is there any efficacy in sulphuring as late in the season as this? I have seen no mildew until very lately and now there are some spots appearing on the berries. Will it do either good or harm to sulphur now?—Grower, Woodland.

It is customary to use sulphur for mildew whenever the trouble appears. Ordinarily it appears very early in the season and sulphur is applied to the stump even before the leaves appear. In other places where the disease crops out later in the season the sulphur is applied later. It may be a question whether, appearing as late as this, when the fruit is so nearly ripe, the sulphur would have any great effect, but possibly it might protect late varieties. You need not fear any injury from the application of the sulphur, but we should apply carefully and not load the clusters with sulphur. It will work just as well if put on adjacent leaves, for it is the fumes from the vaporization of the sulphur which do the work—not the contact of the sulphur itself.

Brown Apricot Scale.

To the Editor:—I send herewith twigs of my apricot trees which seem to be infested with some pest. The trees also show dieback on some of the tips of the branches. What is the matter with them?—Reader, Healdsburg, Cal.

The apricot twigs show brown apricot scale in quantities sufficient to account for the trouble which you see in your trees. Such an exhaustion of the sap as these millions of insects are able to make would certainly be followed by dieback of some of these branches. Thrift must be restored to the trees by the destruction of this scale. In the region about San Jose, where this insect was once very bad, it has been reduced by its parasites and you should have them introduced. This work should be done for you by your county horticultural commissioners. If it is not possible to secure that result at once, give your trees a good pruning back, burn all of the prunings and as soon as the leaves fall spray thoroughly with lime, salt and sulphur in order to kill as many as possible during the winter. This treatment will have to be followed by the use of kerosene emulsion after the scales which are not killed in the winter begin hatching out in the spring or early summer. This insect is a very destructive one, but it is en-

couraging that, in places where it was once abundant, it has now become very much reduced by some natural agency—presumably by the parasite already alluded to.

Red Spider.

To the Editor:—I enclose a piece of bark of almond showing, near where limb branched, some minute insect. What is it? Is it injurious? What is the remedy? The insect appears in greatest force around the under side of intersection of large limbs with trunk of tree, and on some trees there appears to be considerable diminution of vitality; nuts are smaller. This is the first appearance of this insect here. I read your paper with much interest, and frequently find it profitable to refer to files many years old.—E. M. Billings, Benicia.

The insect is the red spider, of which you will find full accounts and remedies in the issues of the last year or two, which we are glad to hear that you keep for reference. The bodies now in the bark are the empty egg shells: the insects are getting in their evil work on the leaves.

No Weather Prophecies.

To the Editor:—Cannot you get Prof. Hilgard to tell us how much rain we are going to have the coming season? It would make much difference to our plans for the future.—A. G. S., Alessandro.

Prof. Hilgard makes no claims as a weather prophet, as we stated in these columns last year. Besides, he is now undergoing the "rest cure" and is unable to consider such hard questions. We therefore take opportunity to say that Prof. Hilgard has never given an opinion as to what the character of the weather would be in any coming year. He was credited with such prophecies in the newspapers two years ago, but it was altogether the work of reporters. Although what was credited to him as prophecy came true, he has no desire whatever to take the credit for it, because, as a man of science, he knows very well that there is not at the present time sufficient data for any prognostication of that sort. There is no way of knowing in advance what a California season will be. The probability is that, after two dry seasons, there will be a return to the normal, which would be a season of more rain. It has been so in the past and will probably be so in the future, but more than that no one can state with any assurance.

Plants in Living Rooms.

To the Editor:—Are plants dangerous in living rooms? We do not seem to agree in our home discussion and refer the matter to you.—House Plant, Napa.

The question of growing plants in sleeping rooms has been pretty definitely settled in this way: that the plant itself is not in any way injurious—in fact, it is the nature of the plant to absorb carbonic acid and exhale oxygen. There is, however, a way in which plants may become dangerous in living rooms and that is they may make the atmosphere too moist by the spraying which is absolutely necessary to their growth and there may be exhalations from the soil in which the plant is growing, which is not altogether wholesome. For this reason we should be careful about having plants in sleeping rooms, although we are under the impression that the prejudice against them, which has prevailed for a long time, is to a large extent unwarranted.

Growing Carnation Seeds.

To the Editor:—I have had great success in growing carnations in the field like corn. They make immense plants and the bloom seeds freely. Cannot I grow them profitably for seed?—Carnation, Briceland.

The result of your experiments with carnations is very interesting. There is nothing that we can do in the way of suggestion as to the growing of the plant, for that you seem to understand perfectly, as is shown by the results that you obtain. The next point in all seed undertaking is to find a market for the seed and that is usually to be done by correspondence, leading to contracts with large dealers. It will be very unsafe to undertake a large production of seed without understanding who is to make use of it, and the amount which can be sold in local markets will be exceedingly small. You will need to find a market in the East and probably in Europe before you can dispose of any considerable amount; then by entering into correspondence with large distributing parties you can ascertain what strains of the carnation will be most desirable in trade. This is the way in which California production of every kind of seeds has been built up by years of attention and effort, until now in some lines, as you are probably aware, California produces the leading supply of the world.

A Cousin to the Chinch Bug.

To the Editor:—I send you a sample of bugs which were very abundant a short time ago, but are now very hard to find. They came too late to hurt the grain; but, if they are bad, they may come earlier next time, and I want to know whether I ought to burn my stubble to head them off.—Grower, Union Island.

The insect which you send is related to the chinch bug, but is not the true article. This insect has been shown from time to time, and, although it has apparently the same power as the chinch bug as to ruining things, yet, so far, has never succeeded in doing so on any large scale. We cannot say why, but such is the fact. Whether he is kept down by the burning of stubble, or whether he has natural enemies, we are unable to state. Of course, unless there is considerable value in the stubble, it would seem to be the part of wisdom to sacrifice it for the safety of the coming crop.

Salt Bushes.

To the Editor:—I send you some leaves of salt bushes; can you tell the name of each?—Grower, Elk Grove.

There are so many salt bushes and the leaf resemblances are so striking it is very difficult to determine the variety by the leaf alone. The character of the seeds and the seed vessels are more distinguishable. If you will send down part of the plant containing the blossom and seed we will endeavor to name it for you.

Harlequin Cabbage Bug.

To the Editor:—I am troubled with a certain kind of bug on cabbage and white turnips. I enclose a few bugs here. Please inform me as to the name and what is best to put on cabbage to keep them off. I have tried several things; but none have done any good, and my druggist has referred me to you.—C. Alsgood, Lafayette.

The insect on your cabbages is the Harlequin cabbage bug—an old enemy of the plant. It can be killed with kerosene emulson; but it is hard to get it on the bug, because he is under the leaves, etc. Hand-picking is about the best treatment. Poisons on the plant are of no use, because the insect does not bite, but sucks the sap with its proboscis, and, therefore, does not get the poison into his little insides at all.

Red June Plum.

To the Editor:—What is the standing of the Red June plum? Is it early and a good bearer?—Orchardist, Loomis.

The Red June plum is regarded as the best of the early ripening Japanese varieties. It is very handsome and desirable, and, so far as we know, is a good bearer. All the Japanese plums have this general characteristic of good bearing. There is, of course, some question, however, in different localities, and that can only be determined by actual trial. So far as we know the variety is all right in this respect.

Lima Beans.

To the Editor:—What is the botanical name of the Lima bean, and where can I find full information about it?—Merchant, San Francisco.

There is perhaps some little question as to the exact botanical classification of the different varieties of Lima beans; but the one largely grown in this State is a variety of *Phaseolus lunatus*. The fullest data on the botany of Lima beans is a bulletin upon that subject by Prof. L. H. Bailey, of Cornell University, an excellent authority. As to the methods employed in growing them in California, the fullest account is contained in our book entitled "California Vegetables."

Winter Melons.

To the Editor:—I am interested in winter musk melons and believe there is a future for them in this State. What can you tell me about them?—Reader, Los Angeles.

It is very likely that the winter melons will prove of considerable economic importance in this State. One of them, called Cassaba, has been grown in this State for a number of years and is increasing in interest. A collection of winter melons of Persian origin were grown at the University Experiment Station at Pomona two years ago and seed was distributed last year by the University, as perhaps you know. They have been so short of water this year at Pomona station that perhaps the melon experiments were not very satisfactory. If, however, there is seed available for experiment this year it will be announced in the seed distribution bulletin of the University.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Aug. 21, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has continued several degrees below the normal, except on the coast, where it is nearly normal. Light showers occurred at San Diego and Eureka, and a trace in portions of the Sacramento valley, but no damage resulted. The cool weather has retarded fruit drying and the maturing of grapes, but has been very favorable for the growth of hops and corn, and late peaches have ripened evenly. In some sections there will be a considerable loss of deciduous fruits, owing to a scarcity of labor. Raisin grapes are not making favorable progress, and picking will begin late; it is estimated that there will be a fair crop. Citrus fruits are in good condition. Walnuts have shown a marked improvement during the week, and a good crop is probable. Figs are becoming plentiful; there is a large crop, of fine quality. Threshing and harvesting continue in some sections, but the grain crop is practically all gathered, and largely stored in warehouses. There will be a heavy yield of hops in the coast section. Pasturage is becoming scarce in some localities.

Sacramento Valley.

The cool weather has hecn unfavorable for fruit drying, and has retarded the development of Tokays; there will he a heavy crop of grapes. Late Crawford peaches and melons are ahundant. Oranges and olives are doing well Much deciduous fruit will be lost, owing to a scarcity of lahor. Harvesting is nearly completed; the yield is very satisfactory. The second crop of alfalfa is heing marketed.

Coast and Bay Sections.

Although the temperature has been much helow normal, deciduous fruits have ripened evenly and favorahly, and grapes are making good growth. High winds in some localities have caused slight damage to fruit trees, and fruit drying has heen retarded hy cool weather and fogs. One correspondent in San Luis Ohispo county states that his olive trees were very full of bloom in April, but will yield only a third of a crop, and that his trees are again in hloom. Harvesting is still progressing, with excellent yields; in some sections, however, the grain is lacking in plumpness. Portions of San Luis Ohispo county have a very heavy yield of grain. Corn, hops and potatoes were greatly henefited by cool weather and are developing rapidly. A large crop of hops and beans will be gathered. Pasturage is becoming short in some sections. Surplus cattle and hogs are heing sold and shipped.

San Joaquin Valley.

The continued cool weather has been somewhat injurious to grapes; warm sunshine would be beneficial. Deciduous fruits are being shipped and dried. Prunes are ripening slowly, hut will he a good crop. Grapes are heing shipped East in considerahle quantities. Figs are plentiful and excellent in quality. Harvesting is rapidly drawing to a close; the yield is generally hetter than anticipated. Most of the grain is stored in warehouses. Indian and Egyptian corn are doing well. There is a large yield of potatoes. Sweet potatoes are maturing; there will be a good crop.

Southern California.

Peaches and prunes are being gathered; there is a good crop. White grapes are in market. Prospects are good for a large crop of raisin grapes. Melons are ahundant. Cool weather has heen heneficial to citrus trees. Harvesting continues. In Santa Barhara county harley is ylelding above early estimates, hut wheat is light. The fourth crop of alfalfa is heing cut. Potatoes are yielding a good crop. The hean crop will he helow average, owing to light acreage. Sugar heets are yet uncertain. Walnuts show great improvement during the last ten days, and the yield will he larger than estimated.

Los Angeles Summary—The weather continued unseasonahly cool, with foggy or cloudy nights and mornings, fair days and light showers of rain 17th and 18th, in some of the southern sections. Frost, the first reported, sufficiently heavy to destroy tender vegetation, occurred 13th and 14th in the mountains of the extreme southern sections. The continued cool, damp weather has heen a hlessing to vegetation, particularly orchards where irrigating water was scant or lacking, as the ahsence of hot, drying winds prevented the rapid evaporation of soil moisture. Some of the heet sugar factories have opened, others will open Septemher 1st; heets are ripening fast, and plowing, topping and hauling will soon hegin. Tahle grapes are ripe; raisin grapes are ripening slowly and fear is entertained that the raisin-making season will extend into the wet mouths.—George E. Franklin.

Eureka Summary.—Weather conditions generally favorahle. Grain harvesting nearing completion. Oats and barley yielding good crops; wheat light. Vegetahles continue making excellent growth. Prunes of good quality are abundant.

The following data for the week ending 5 A. M. Wednesday, August 23, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.15	.39	T	.15	48	62
Red Bluff	T	.02	.00	.06	58	86
Sacramento	.00	.02	.00	T	56	88
San Francisco	.00	T	T	.04	52	78
Fresno	.00	.00	.00	T	56	92
Independence	.00	.07	.01	.06	54	86
San Luis Obispo	.00	.00	.00	.04	48	86
Los Angeles	.00	.02	.07	.06	54	82
San Diego	.06	.06	.00	.04	58	72
Yuma	.00	.06	.00	.43	64	104

FORESTRY.

Observations on the Denudation of Vegetation---A Suggested Remedy for California.

NUMBER II.

By MARSDEN MANSON, C. E., Ph. D., in Sierra Club Bulletin.

Effect of Vegetation in Storing Water.—But few give full credit and consideration to the effect which vegetation has in checking the rate of run-off and aiding in the storage of water. This effect is vital, both to the preservation of springs and streams and to artesian supply, and preserves and supplements artificial storage.

In a catchment area of 500 acres to one acre of reservoir space below, each foot of depth of reservoir capacity is equaled by an effective storage capacity of soil of less than $\frac{1}{40}$ inch, so that if by reson of that covering the catchment area with vegetation, $\frac{1}{40}$ inch of rainfall can be caught beneath the surface and let down slowly to dependent springs and streams, this fraction is the equivalent of an acre covered 1 foot deep; or 1 inch of moisture stored in the soil is equivalent to 40 feet of water in the reservoir.

In many forests in California, it takes more than 5 inches of rainfall in the autumn to give an appreciable increase of run-off—showing that the forest has checked the rate of run-off to an extent more than 200 times greater than the figure above mentioned as being the equivalent of a foot of water in the reservoir.

The great difference in the storage capacity of a timbered and non-timbered area is plainly shown in the flood capacity of the channels draining each. In the northern coast counties, subject to an annual rainfall of from 50 to 60 inches, the flood channels are of far less capacity than those in the southern coast counties, upon which the annual rainfall is from one-fourth to one-fifth that in the northern mountain slopes. The run-off from the timbered areas is so slow that it is not accomplished in months.

In considering the problems connected with the storage and conservation of water, it is essential to take up that of the storage or sponge capacity of the soil and the means necessary to increase this. Whether reservoir space be available or not, this factor and its possible increase should not be neglected, for a reservoir supplied from a catchment area devoid of protecting vegetation is soon silted up.

To directly trace and determine the effect of an increased rate of run-off upon artesian supply is a difficult and obscure problem. But the broad results are clear. Whether the water seeps into and through permeable strata, or under the edges of impermeable clays along the upper reaches of the valley channels, the result is the same. If the catchment area be denuded of vegetation and soil, a decrease in artesian supply must follow. This is due to the shorter time in which the rainfall can seep into the water bearing strata—the increased rate of run-off going to swell the volume and destructiveness of floods.

Present Area of California Forest Reserves.—In order to bring these generalizations into practical bearing upon the problems which confront us in California, we will consider the ares set aside as forest reservations and remaining as public domain in California.

Forest reserves approximate 14,000 square miles, as follows:

	Acres.
Stanislaus forest reserve	705,000
Yosemite forest reserve	1,009,680
Sierra forest reserve	4,079,360
Pine Mountain and Zaca Lake forest reserve	1,159,083
San Gabriel forest reserve	573,048
San Bernardino forest reserve	731,176
San Jacinto forest reserve	664,678
Trabuca Canyon forest reserve	49,760
Total	8,972,125

In addition to this, 34,688,932 acres, 54,000 square miles,—or about one-third the area of the State,—is yet public land. These two aggregate 78,000 square miles, much of which is classified as desert land, but even this is used many months of each year for pasturage; another large fraction is mountain or rolling land sparsely timbered or covered with brush interspersed with forage plants, which make it of great value for pasture.

Management of Reserves.—The policy of the Government in the control of this vast area has been along one of two lines—absolute neglect or abolute exclusion. After long periods of neglect, spasmodic efforts at protection have been made by sending out a "special agent" from the "East," who generally knows but little of our forests and less of our climatic conditions. Sometimes his efforts have resulted in the institution of suits for "illegal cutting of timber." These have generally resulted in dismissal, or, in rare instances, in the rendering of a judgment amounting to a small percentage of the value of the timber stolen. In some instances, when active and real examinations into the illegal seizing of lands, cutting of timber, or other abuses, have been instituted, the agent has been "recalled."

These efforts have, therefore, never resulted in much good other than to check for a while the fraudulent acquisition of public land, or the stealing of timber therefrom. They have never been the result of a well conceived and sustained effort to protect the public domain and to conserve the interests and wealth thereof.

In one or two of the reservations, the opposite policy of absolute exclusion has been spasmodically carried out; a force of cavalry has been sent up to patrol the resvervations, and under the thorough discipline of army officers, trespassing sheep herders have been arrested, their flocks scattered, and effective restraint inaugurated over a limited portion of the forest areas.

Neither of these policies is wise. The first condemns itself; the second fails to untilize the vast wealth of forest and pasture which these lands are capable of yielding. It is doubtful whether any system of forest management controlled from Washington, and under an ever-changing political system, could be efficiently and wisely administered. There are great obstacles to be overcome in getting rational conception of the facts before Congress. Eastern members, and even our own, rarely have more than a general idea of the facts, are adverse to any policy of "withdrawal of the public domain from market" as long as there is land of speculative value left.

Again, the climatic conditions of California differ widely from those of other portions of the United States, and present greater difficulties to forest cultivation by reason of the absence of summer rains. Our forest flora are unique in the world; hence forest management here must be essentially modified from that found advisable elsewhere. It would, therefore, require a local and unique treatment, special in its development, and entirely different from what we must expect from a government which has never undertaken the handling of forest areas in a wise and statesmanlike manner.

Timber Lands Sold Too Cheap.—The valuable timbered areas have long since passed to the ownership of aggregations of capital or private parties. In the Coast Range, it sometimes happens that one million feet, board measure, of lumber stand upon a single acre; this, at a stumpage of $2.50 per thousand feet, is worth $2,500; yet it has been sold for $2.50. The sugar pine, redwood, fir, spruce, etc, of the Sierras, have been disposed of in the same way. This is not new in the history of this country. The white pine of Maine, the live oaks of Florida, the vast pine forests of Michigan and Washington received the same treatment, and to-day thousands of acres, despoiled of their recuperative powers checked by destructive pasturage, and intentional or accidental fires, are in one or the other stage of decrepitude. The owners of these lands are, in some instances, almost ready to return them to the State. When an attempt is made to check the evil of timber-land grabbing, pressure is brought to bear on Congress by those who desire to exploit the public wealth, and the attempt is rendered abortive. The results of this system are glaringly set forth in the case of the live oak forests of Florida. Shortly after Florida was purchased, large reservations of this valuable timber were made for the use of the Navy. Later contractors for furnishing this class of timber to the Navy supplied, at high prices, the timber stolen from these very reserves.

Reforms Necessary.—Nevertheless, under the advice and spur of those interested in forestry, and who realize the evils of forest denudation, broad and important investigations have been made, thorough studies have been carried on, the benefits to follow from correcting the evils which are practiced are fully elucidated, and have been reiterated with convincing force before successive Congresses for the last quarter of a century or more; yet no broadly conceived policy to check forest fires, to stop depredations, nor to afforest barren areas has been put in force; nor has any considerable portion of the funds recovered from timber stolen from the public domain been used to afforest the same; neither is any part of the funds derived from the sale of timbered lands set apart for forest preservation. No broader studies have been made under any government than the advocates of forestry have issued from the Government Printing Office. That these studies have resulted in no practical result is proof of the view that Congress cannot directly manage practical forestry. It is possible that the limit of work which the General Government can do is reached when the examinations are made. It would be idle to cite greater affairs which the Government has successfully accomplished as proof that it could undertake systematic forestry, for in this the element of politics must be dealt with in its most effective form, and the only way to nullify is to place forestry above and beyond the power of the "practical" politician.

(To be Continued.)

WITH increasing altitude the boiling point of water decreases, until at sufficiently high altitude the hand could be immersed in boiling water without injury.

THE DAIRY.

The Dairy in Southern California.

Extracts from the address of PRESIDENT C. H. SESSIONS at the last meeting of the Dairy Association of Southern California.

One year ago I spoke of the unusual dry season through which we had passed, and now I am again obliged to speak of a still drier one, so far as amount of rainfall shows, but it came at such opportune times that although we had 2 inches less than last year we had better winter crops and the indications for a good year are promising. The previous dry years showed the necessity for more water and many have put down wells and now pump enough to grow more alfalfa and other crops than they ever did before, and farmers are in a better position to be more independent of rainfall and thereby have crops when prices are highest.

Silos and Ensilage.—For several years this Association has been agitating the subject of silos and ensilage, and it is a pleasure to see our efforts bearing fruit in the number of silos that have been built and more that will be in the near future. I have heard it estimated that no less than fifty silos have been put up this year. It is one of the cheapest ways of storing feed, at the same time giving us the advantage of its being succulent and a wonderful milk producer. I hope more attention will be paid to the silo as nothing will so lessen the cost of milk production in this section.

Creamery Reports for 1897.—From reports of as many creameries as I could get them from, I find the average milk per patron from January to July was 3500 pounds per month, with butter ranging from 31 cents to 42 cents per roll, and from July to January 3100 pounds, with butter from 45 cents to 61 cents. The most milk was furnished in March, April and May when butter was lowest, 31 cents to 36 cents. The least milk was furnished in October, November and December with butter from 52 cents to 61 cents. This shows that greater effort should be made to bring the most of our cows fresh in the early fall, instead of early spring, that we may get greater returns for our milk. At that time there is a scarcity of milk and the demand for butter increases, so there will hardly be a possibility of the market being overstocked.

Dairy School.—The Regents of the State University asked the last Legislature for $5000 with which to engage a traveling dairy instructor, which would be the preliminary step towards a dairy school, but the item was cut out while in the committee. The Department of Agriculture is trying to find a market for our surplus butter, and as we will come into competition with some of the noted manufacturers of the world, it will make the dairy school a necessity, where our butter makers can be educated to become experts in their line. At present our butter is all used while fresh and we have the reputation of making a first-class article, but when packed and put into cold storage or shipped we will then come to the critical test.

Imitation of Brands.—During the past few months the brands of some of our prominent creameries have been imitated and Northern and Eastern butter rewrapped and sold under those brands at 2½ cents to 5 cents less than market prices, thereby damaging the reputation of those brands and demoralizing prices. Prompt action was taken by the creamerymen and I trust the fraud has been stopped.

At the last Legislature an attempt was made to pass a law protecting the brands of the State, but the commission men entered such strong protest that it was defeated. Had the dairy and creamerymen been well organized and been prepared to work for its passage we might have succeeded and prevented the trouble and annoyance of the past few months.

It is strange the farmers are so slow to help in a cause which vitally interests them. This Association should have several hundred members with a fund that could be used in protecting our interests. Would it not be best to have a membership committee in every creamery district to solicit members at $1 per year, and try to have a large representation of the milk producers, and then stand up for their rights? One hundred members cannot carry the burdens of the three thousand milk producers in southern California.

Los Angeles Creamery Board of Trade.—I wish to congratulate the creamerymen for having organized the Los Angeles Creamery Board of Trade, by which they will have control of the local butter market, instead of leaving it all in the hands of the commission men. They can now follow the market conditions and make prices so that our local brands will be kept cleaned up and at better prices. In marketing their butter the creamerymen are not only doing business for themselves, but for the hundreds of patrons who depend on their selling to such advantage as shall give to them the largest amount of money for their milk, so that every patron is interested in the success of this Board of Trade. The trademark which will be used by the members in connection with their brands will prevent Northern and Eastern butter

being sold under local brands, as was the case the last few months, and consumers will soon understand that butter without the trademark is not guaranteed to be of home production. This Board of Trade should work for the success of the State Dairy School, which it is hoped will be created in the near future, in order that our butter makers may be thoroughly trained in their work, and that our butter may stand as high, or higher, than any with which it may compete.

Oleomargarine.—I regret to state that in the early part of 1898 the commission men having the contract for furnishing the Soldiers' Home with "fresh, choice, California creamery butter," delivered to them "process" butter instead, which was so objectionable that the authorities made the next contracts for oleomargarine instead of butter, which was said to be preferable to the vile stuff which had been forced upon them.

The officers of this Association took up the matter at once and with the assistance of the Chamber of Commerce and the Merchants' and Manufacturers' Association succeeded in getting the reply that the local authorities would use their best endeavors to have future contracts made for butter. Later, bids were asked for both butter and oleomargarine, but the price for butter was considered too high and they again contracted for oleomargarine at about 15 cents per pound. This Home, being a national institution, is not subject to our State law governing the use of oleomargarine in public institutions.

Again, the dairymen are injured in their business to have to compete with this quantity of oleomargarine, which has displaced not less than 60,000 pounds of butter. It is an injury to the whole State, as it should have been butter made here instead of oleomargarine brought from Chicago. Every dairyman in the country has a chance to take a hand in the fight which is being made against oleomargarine and should be willing to do so. Here in this section we have always had most of the oleomargarine in the State to compete with, and therefore are the most interested in having it forced out of the market. The dairy interests of this State succeeded in having laws passed which have stopped its sale, when it had to be sold for what it really was, but in some States they have not been so fortunate, and now efforts are being made to have the Government raise the present tax of 2 cents per pound to 10 cents for colored oleomargarine. The Davidson bill to this effect is now in Congress and at its next term efforts will be made to pass it.

Process Butter and Inspection Laws.—During the last term of the Legislature a bill was passed to compel the branding of "process" or "renovated" butter so that it must be sold for what it really is, and not as "fresh, choice, California creamery butter," as in the case of the Soldiers' Home.

Another bill which passed was for the inspection of cattle, dairies, creameries, etc. As it was introduced, the bill intended the State Dairy Bureau or its deputies to examine all cattle, dairies, creameries, etc., at least once a year and correct any troubles which might be found, but as it finally passed, it requires a complaint to the State Dairy Bureau to be made, by anyone, against the owners of cattle, dairies, creameries, etc., and then the inspector makes the investigation. This puts it into the hands of the people who must make a complaint against their neighbors or get some city or county health officer to do it for them, or no inspection can be done.

Dairy Meetings in the Country.—Since our last annual meeting we have held large and profitable meetings in Clearwater and Downey. These meetings were well advertised by the local creameries and the attendance was much larger than we expected. The subjects were of great interest and the discussions were participated in by many, and we believe that a great deal of information was brought out to be thought over later.

I believe we are doing the milk producers a great service by holding these meetings, and that they should be held at frequent intervals during the next year. By doing this we are disseminating knowledge which will improve the already high standard of our local butter and cheese.

Farmers' Institutes.—The Farmers' Clubs Institute will hold their next meeting at Pasadena the first week in January, 1900, and we have been invited to be present with a paper on the subject, "The Small Dairy for Profit."

It is known that a small dairy can make more profit as compared with the expense than a large one and are the ones which should be encouraged. In order that we may get the proper person to write this paper I would suggest that a committee be appointed to select such person, that we may be represented at that meeting.

The meeting will be attended by delegates from all the farmers' clubs in southern California, and the information obtained on the subjects brought up will be reported all over the State, as it will be of great value. We have also been asked to furnish two papers to be read at the regular Farmers' Institutes to be held in September at Westminster and Buena Park; we to choose our own subjects. This same committee could make the selection. If the writers could not be present at the Institutes, the papers could be sent in and read by the secretary. As these Institutes will be largely devoted to dairying, I hope every one who possibly can will attend them.

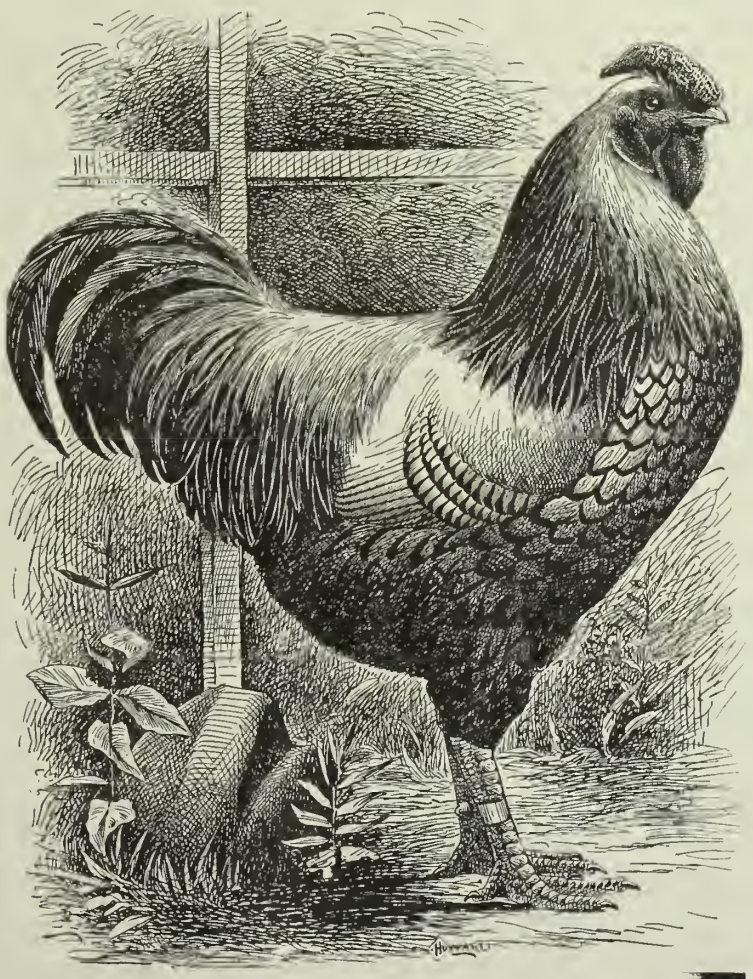
THE POULTRY YARD.

The Silver-Laced Wyandottes.

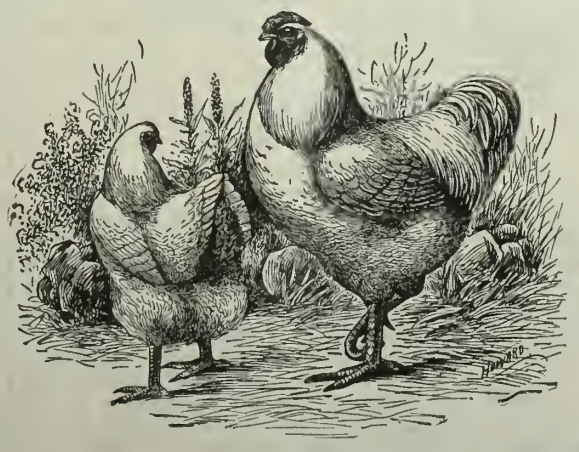
To the Editor:—During my seven months' travels through your grand State, I do not remember to have seen a single yard of Wyandottes. I the more regret this because of the intrinsic value of this breed of fowls of American origin. No good breed of fowls should be neglected and especially a good home-bred breed.



SILVER-LACED WYANDOTTE PULLET.



SILVER-LACED WYANDOTTE COCKEREL.



PAIR OF WHITE WYANDOTTES.

I speak of the value of these fowls from many years' experience with them, as well, also, with the several other valuable breeds. While I desire to give due credit to the Plymouth Rocks, the Light Brahmas, the Dominiques, the Javas, the Langshans, the Cochins, the Leghorns, the Minorcas, the Hamburgs, the Dorkings, the French breeds, and, not last by any means, the Blue Andulusians, how often does this valuable blood, commingled with that of the Leghorns, spring into individuality by the preservative law of atavism? I have seen it thus manifest itself through eight generations in my own breeding. The power of accumulative blood globules, from the mysterious affinities of blood selection, must have led Darwin to discover the laws of the survival of the fittest.

From long and careful observation on the relative blood accumulations of fowls, swine, horses and cattle, I am able to, relatively, estimate the blood values of the several breeds from which the blood was commingled. The Shorthorn blood spread through our herds can be pretty fairly and correctly estimated, thus: half, quarter, eighth or even a sixteenth of this blood plainly shows the Shorthorn characteristics. The division of the blood of the Wyandotte is the most remarkable example of the characteristic perpetuity of the Wyandotte blood, even though it sprung from the commingling of the Dark Brahma, the Silver-Spangled Hamburg and the French Breda. Doubtless, its tenacity and persistence is triply inbred and markedly characteristic of each of these valuable breeds. It is a remarkable fact that the Wyandotte blood can be readily traced through even twenty generations of crossbreeding. Therefore, the Wyandotte breed, so to speak, is dyed-in-the-wool of three superior breeds of valuable fowls. The blood of no breed of fowls is so fortified in excellence. It is for this reason that I so strongly commend the valuable Wyandotte breed.

It will "nick" with the blood of any breed of fowls and always add excellence—the intrinsic excellence of its own blood characteristics. As further proof of this statement, there are five varieties of the Wyandotte breed, and the best breeders of them are undecided as to which variety is best, for the general characteristics are the same; the differences seem to be only the distinguishing color marks.

I note briefly the special characteristics of the breed: The Silver-Laced Wyandotte is of a silvery-white plumage, with regularly marked white lacing on breast and a free distribution of white and black throughout the entire body. These characteristics should be plain and distinct in both male and female. The Golden variety is beautiful also, but, I think, not fully up to the standard of the Silver-Laced. The cock weighs at maturity 8½ pounds; the hen, 6½ pounds. It has more breast meat than any other breed, and the flesh is tender, sweet and juicy. As a layer it is excellent, averaging from twelve to fourteen dozen eggs a year. The eggs are large, rounded and rich.

The poultry industry of California is a most important one. The luxuries of eggs and chickens at table have become a daily necessity. The Wyandotte is about double that of the Brown Leghorn for a table fowl, and, were the eggs sold by weight, as they should be, the difference between the two would be small.

A. S. Heath, M. D.

New York City.

[We are glad to hear from Dr. Heath, whom we know to be a progressive agriculturist from Horace Greeley's time and beyond, perhaps, and a prominent member of the New York Farmers' Club. He passed the winter in California with Col. Heath of Carpinteria, and we hope will do so often. There are good Wyandottes in California, but they did not happen to cross Dr. Heath's line of travel.—Ed.]

THE VETERINARIAN.

Equine Distemper, or Epizootic.

Condensed from an advance copy of Bulletin 6 of the Virginia Experiment Station, by Charles McCullough, Assistant Veterinarian.

Equine distimper is an infectious and contagious disease, characterized by an inflammation of the mucous membrane lining the various cavities of the body. It is also known as influenza, epizootic, catarrhal fever, pink eye, etc.

Equine distemper has been recognized for many years. In fact, it is recorded to have appeared in Seville as early as 1299. Since 1873 distemper has been a constant resident of the United States, al-

though much more moderate in form, more isolated in outbreaks, and, owing to a better understanding of its pathological phenomena, its fatality has been greatly diminished.

The predisposing cause of equine distemper is anything that tends to lower the vitality of the animal, as damp, dark, very close and crowded stables, undue exposure to drafts and stormy weather, and especially overwork with scanty nourishment. The direct cause of equine distemper has been shown to be a micro-organism.

Symptoms.—The first symptoms are loss of appetite, depression and weakness. The temperature rises rapidly to 105° to 106° Fahrenheit, and remains stationary for from three to six days, varying but slightly. This is generally followed by a decline in the temperature which may be as rapid as was the rise.

The pulse does not become accelerated in comparison to the elevation of temperature, nor does it regain its normal nearly so rapidly. Starting at forty beats per minute, it gradually reaches fifty, sixty, seventy, and, in cases where death will be the probable termination, it may reach 100 beats per minute.

The fever is accompanied by more or less nervous depression and great muscular weakness; the animal holds its head low, often supports it on the manger, and appears as though asleep. It trembles while resting, and staggers when it tries to walk. It sometimes becomes paralyzed in its posterior quarters.

The gastric symptoms are present in the majority of cases. The mucous membrane of the mouth is dry and hot. The pharynx is often swollen so that swallowing becomes difficult. Colicky symptoms are quite frequent. In the beginning, constipation is the rule; the feces are hard and coated with mucus; later, diarrhœa occurs, which is usually accompanied by more or less straining. There is a frequent desire to urinate.

The ocular disturbances are present in nearly all cases and are very characteristic. Both eyes are generally affected, although only one may be inflamed. This disturbance may simply be a mild conjunctivitis, or it may extend into the deeper structures of the eye and give rise to a violent iritis. In all cases there is a profuse flow of lachrymal secretion, which is clear at first, but if the inflammation extends into the deeper structures the secretion then becomes thicker and of a yellowish color. Light is very painful to the inflamed organ. The eyelids are swollen, and the eye proper often presents an opaque appearance.

When convalescence sets in, however, these symptoms disappear with remarkable rapidity. During the course of the disease the heart frequently becomes weak, and the circulation consequently poor, which gives rise to œdema, or swelling of the eyelids, belly, chest, sheath and legs. This swelling is cold to the touch, and does not seem sensitive on pressure, and disappears rapidly when recovery sets in.

The mucous membrane of the air passages is the seat of inflammation, which is marked in the beginning by a mucous discharge from the nostrils, later becoming thicker and mixed with pus; by more or less enlargement of the sub-maxillary lymphatics; a moderate acceleration of respiration and by a cough. In all cases of distemper emaciation is distinctly marked.

Course and Complications.—The average duration of the disease is from six to ten days. In severe cases it may continue as long as three weeks. When resolution begins the appetite returns; the bowels become normal; the swelling disappears; the general condition is improved and health is restored within one to two weeks. In a small number of cases this regular course is interrupted by complications, which may be caused by exposure or hard work at the time when the first symptoms of the disease are discovered, or, as is more commonly the case, by infection with some other bacteria.

Typical distemper is classed as a benign disease. Its severity seems to depend, in a great measure, upon the season, locality and condition of the animal. Mortality is from 4% to 6%.

Sequellæ.—In some cases the animal is left with a roughened respiration and a dry cough. This, however, usually passes away before long.

Equine distemper differs from other infectious and contagious diseases in its rapid extension over a large area of the country, its benign character, in the abruptness of its appearance and in the rapidity of its progress.

Treatment.—The typical attack of distemper requires very little treatment outside of easily digested food, good ventilation, absence of drafts, rest and quiet. Rectal injections of cold water tend to lower the temperature and at the same time to regulate the bowels. But good nursing is the principal treatment.

It is when complications present themselves that treatment becomes necessary. When pyogenic distemper complicates the attack, the large sub-maxillary glands should be poulticed with a hot, clean poultice, so as to favor superation. When this swelling becomes soft, it should be lanced and allowed to drain. When respiration becomes difficult, allowing the animal to inhale the steam of boiling water, into which a little tar or turpentine has been poured, will generally relieve the troublesome breathing to a great extent.

When pneumonia complicates the disease, blankets should be wrung out in hot water and applied to the chest. If, however, the inflammatory process continues to extend, stimulating blisters are of service; among these, mustard is about the best. The heart should be carefully watched, and, if seen to grow weak, stimulants should be administered, as alcohol one to two ounces, with tinature of nux vomica one to two drachms, given by the mouth, three times a day in two or three times as much water, either as a drench or by means of a syringe.

When the extremities are swollen very much, or when founder is present, hot applications are very beneficial. The feet should be placed in a tub of hot water and allowed to remain during the day, and hot poultices applied during the night. Oil meal makes the best poultice, but when this cannot be obtained, bran answers the purpose very nicely. The object is to maintain an even heat over the inflamed parts.

When the eyes become much inflamed, they should be bathed every few hours with a solution containing one drachm of boracic acid to one pint of water. When the deeper structures of the eye appear inflamed, a few drops of belladonna should be dropped into the eye night and morning for three or four days.

When the nervous symptoms are very severe, cold applications to the head and spine are of benefit. The bowels should be kept open with laxative diet or linseed oil. Iodide of potassium two drachms, with powdered nux vomica one-half drachm, three times a day, as a tonic, stimulant and alterative, often gives very happy results. If the animal is very plethoric, bleeding is often advantageous. When excitement is very marked, bromide of potassium two drachms with *cannabis indica* (tincture) one-half ounce, given every three hours until animal becomes more quiet, should be tried. In all cases, the object should be to maintain the strength of the patient, relieve the severe symptoms and combat complications. With these objects in view and strict attention to details of nursing, most often happy results are gotten, and but few cases prove fatal. It should always be borne in mind that distemper is a contagious and infectious disease, and that animals not affected should not be exposed to affected animals or left in stables which have been occupied by distempered horses.

Tested Prescriptions.

To the Editor:—Something over two years ago there appeared in the veterinary department of your paper two prescriptions—one a salve and the other a healing lotion. I had the salve put up several times and found it splendid, but a fire destroyed the drug store and I lost the prescription. The salve was used for sores, cuts, wounds. I used it for sore shoulder on horses. The healing lotion was for abrasions, cuts, wounds and galls.—W. A. Creps, Erle, Yuba county.

As the prescriptions have proved so good we repeat them for the benefit of our correspondent and others who may not have noticed them before. They were prescribed by Dr. Creely as a treatment for barbed wire cuts:

Clip the hair around the wound. Put a tablespoonful of carbolic acid in one quart of warm water and wash the cut thoroughly. Apply this lotion on cotton and bandage loosely: Acetate lead, 1 ounce; sulphate zinc, 6 drachms; tincture opium, 1 ounce; tincture arnica, 2 ounces; water, 1 pint. Mix and make a lotion.

If it gets too dry apply the following healing salve: Zinc ointment, 2 ounces; iodoform, ½ ounce; glycerine, 1 ounce; carbolic acid, ½ drachm.

If proud flesh forms rub over the surface once daily with silver caustic.

THE STOCK YARD.

Stock Must Have Water.

Reports reaching the Interior Department of a threatened monopolization at a number of points of the lands acquirable under the law relating to reservoirs for watering live stock create no apprehension on the part of the Washington authorities. They say that the rules and regulations recently put in force for the execution of the law have been so carefully framed that there is no danger of individuals getting more than their share of the public domain or the infliction of any possible injury to the common use of the areas concerned. The new code of rules, it is stated, restricts filings made previous to the issuance of the rules, taking from them every tendency to monopolize, these previous filings being now returned to the parties with the instructions that the applications for such land must conform to the later regulations.

They are also designed to prevent an exclusive right to the tract taken, giving the land the status of a communitive property open to all seeking the water rights, and, furthermore, they restrict the maximum quantity of land in any section to 160 acres to each individual; but even this is not permissible unless the party has built a reservoir having a capacity of half a million gallons, any less capacity reducing the area allowed proportionately. The lands taken cannot be fenced or otherwise inclosed, and must be kept open to the free use of any one wanting to water his animals, any non-compliance with the law and regulations resulting in cancellation of rights.

CEREAL CROPS.

Grain in Suisun Valley.

To the Editor:—An item appeared in your paper under date of Aug. 5th copied from the Suisun *Republican* in which I am credited with having 100 acres of wheat that made seventeen sacks to the acre. Now, while I do not think this mistake will do any material harm if left uncorrected, I deem it just and right that it should be done, as newspapers should as nearly as possible tell things as they are. How the *Republican* man got such an item I am at a loss to understand. The article is probably correct as far as Mr. Crater is concerned, but as to my having 100 acres that made seventeen sacks to the acre, that is all wrong. I have no wheat this year and have not threshed any of my own grain yet.

I have been threshing thirty-five days up to last evening and have threshed some of the best grain that has been raised in this part of Solano county. The best yield so far in wheat has been the 100-acre field of Thos. Dickson, which made 1396 sacks of clean wheat, average weight 144 pounds, and thirty-six sacks of screenings which had more or less good wheat in it. I have threshed this same field in other years when it only made 300 sacks, thus showing the difference in seasons, even when put in the same way. This of course was summer-fallow.

Next in point was the 130-acre tract of the Finney Bros., that also was summer-fallow and made 1767 sacks of clean wheat and forty-one sacks of screenings. We only ran the cleaner on one setting in this field, the wheat being so clean, and having a recleaner in the separator. They did not want the side cleaner used.

The Crater field was in this neighborhood and on better land and usually outyielded it. It was put in about the same, and to all intents and purposes looked just as well, and the men who farmed it thought it would outyield any other field in the vicinity. The records will show that in former years it had always done so, but it did not this year, why I will not undertake to say. This grain was threshed by Ben Reams and they say it was properly done.

Barley Yields.—In barley yields I may mention those of Thos. Lockie, which volunteered twenty-six sacks to the acre; Wm. Cork about thirty sacks; Will Hale, twenty-five sacks; A. J. Perry, Frank Dickie, Carl Bronson, twenty-five sacks; and as most of this barley was knocked flat on the ground by the heavy rain, there was probably about five sacks left on the ground. The average weight per sack of this grain was from 115 to 117 pounds. This grain was all run through the side cleaner and there was considerable light barley taken out that is not counted in this estimate.

Value of a Rest.—It is but fair to say that there was next to nothing raised on most of those fields last year, thus showing what good a rest does the land; but I may also add that most of this land has been farmed continuously for the last fifty years. The grain does not all turn out so well as this though, for we find some fields that fall far short. Some wheat summer-fallow went as low as ten sacks, and barley twelve and fifteen sacks, owing to difference in land, manner of farming, etc.

A Threshing Outfit.—There is no one who has as good a chance to see what land and farming will do as the man who runs a threshing machine, and, in this connection, a brief description of the rig that I am running may not be out of place. I flatter myself that I have the most complete outfit in Solano county. It consists of one Pitt's traction engine, 30 H. P., that in addition to hauling itself pulls the Pitt's 40-inch separator, thus doing away with ten head of horses and the hitching up and unhitching of the same. The next in point is the Bond fork hoist that runs the derrick fork, thus doing away with one man and four horses, and which makes it very much easier for the forkers. The separator is one of the Bronson improved kind, the greatest improvement being the fan in the straw rake, which I consider one of the best that has been invented for separating the grain from the straw, which in this damp, windy climate is no easy job. Still we are able to thresh in any fairly good grain from 900 to 1800 sacks in a day and do the work first class, as proof of which we will submit our straw for inspection. It takes eighteen men to operate the outfit besides myself and the cook, the most important man in the whole lot. A. A. Dickie.

Suisun.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

THE HORSE BEAN.—Oakland *Enquirer*: The statement that growers near San Leandro had shipped several carloads of horse beans East has led some people to wonder what these horse beans are used for. Fully twenty-five tons of horse beans have been shipped from this county to New York during the past thirty days. Joseph Herrscher, F. Schleuter, Joseph Garcia and Manuel Enos last week shipped a carload of the beans. There are about 200 acres of the beans in this county. The horse bean is used in the adulteration of coffee. There is nothing harmful in the bean and its use is thought by some to make an improvement in the flavor of the coffee. There is one brand of coffee which has but little coffee in it. In this the horse bean is used as a substitute and a little coffee and chicory are used so that it can be called coffee. The horse bean grows on a stalk about 3 feet high. The bean is dark in color and is in size like the lima bean.

Butte.

BIGGS HARVESTS.—Daniel Streeter & Sons have finished harvesting about 500 acres of wheat. The summer-fallow portion averaged from fourteen to sixteen sacks. The winter sown did not yield as much, but the whole averaged about 12½ sacks to the acre, or an aggregate of 6000 sacks. D. R. Dogan and others have fine crops of Egyptian corn growing this year on summer-fallowed land. The corn will produce about fifty bushels to the acre, and is as valuable as wheat, while if packed as silage, is twice as valuable as first-class hay.

OLIVE PICKLING FACTORY.—*Register*, Aug. 18: Mr. C. W. Bolles, the Oakland contractor and builder, has the building well under way. The structure is a wooden one and measures 78x96 feet. The walls are 12 feet high and the vats, ninety in all, will be 2x2x12 feet. This will give a capacity of about 25,000 gallons. Mr. Bolles, who is also secretary of the company, says the building will be completed in three weeks and that they will be ready for the fall crop. When they bottle the olives it will require fully fifty hands to handle the pack. This work can be done by women and children. As a rule the company will not buy the fruit on the trees, but after the same has been picked.

HEMP BUSINESS.—Biggs *Argus*, Aug. 11: H. Cook, manager of the Rau hemp ranch, reports that he has just finished the third retting pond, in which the hemp stocks are thrown and where the retting process is done which prepares hemp for the crushing mill. The ponds are constructed of two layers of redwood, framed in heavy timbers. The first or outside planks are 1¼ inches thick and lined with 1-inch boards, making a thickness of 2¼ inches. The dimensions of the ponds or tanks are 100 feet long, 24 feet wide and 6 feet deep. Each pond has a capacity of retting 500 bundles 10 feet long and 15 inches in diameter. Mr. Cook has a splendid crop of 160 acres now growing, the average height being about 10 feet. Fourteen experienced Italians are now employed harvesting the hemp crop, which is conveyed to the water retting tanks as soon as harvested. Judging from previous years the present crop will yield an average of from 800 to 1000 pounds of fiber per acre, or about 145,000 pounds of product, which will net the owner from 6 to 10 cents per pound in New York. This will make a total of something like $11,000 for the crop, or $70 per acre.

Merced.

SILO BUILDING.—Merced *Sun*: Manager Bradley of the Crocker Estate Co. has completed the silo on the Crocker ranch, three miles west of town, and the work of filling it began last Saturday and is now nearly finished. The silo is circular in shape, about 30 feet high, and will hold 300 tons. The feed now being put into it is alfalfa, Egyptian corn and sorghum, which is first run through an automatic feed cutter and made into hash, then carried on little tramways into a window near the top of the silo, from which it is evenly distributed and packed. The cut feed is sprinkled with water as it goes into the silo. A few feet beneath the top surface of the feed that has already been put into the silo the temperature is so hot a person cannot hold his hand there. This indicates that further down the process of fermentation has already commenced. Being the first silo to be built in Merced county, many of our farmers are naturally interested in it, and doubtless some of them will follow Mr. Bradley's example and build similar ones. This one, so long as its contents hold out, will furnish a rich green feed for stock at any season of the year.

BIG PEACHES.—Some of the largest peaches ever grown in this county are being picked now on the Buhach plantation. Yesterday some Late Crawfords were picked and ninety of them weighed fifty-two pounds. The Buhach presents a busy scene just now. A large force of men and boys are employed in picking and packing, and a carload of fruit is shipped East from there about every other day.

Napa.

HOPS.—St. Helena *Star*, Aug. 18: Dowdell & Son have a large crop of hops this year and pronounce it one of the best the yard has ever produced. Picking will begin about September 1st and 200 pickers are wanted to fill bushel baskets at 4 cents each. There will be no poles to pull this year, as the hops have been trained on low trellises. Dowdell & Son expect that it will cost them between $2000 and $3000 to gather this crop.

WIDE TIRES.—Berryessa Cor. *Register*, Aug. 18: T. A. Wassum is the first farmer over here to buy a wagon that will comply with the Wide Tire law, soon to go into effect. The wide tire may prove a public benefit by not cutting ruts into roads, and under certain circumstances it may not require as much motive power as the narrower tire. If all California were valley land, it would be well, in addition to wide tires, to have the hind and front wheels run in different tracks. But it is not. All the roads leading in or out of Berryessa are more or less mountainous, and the teamsters claim that when such roads are sideling and the curves are short, especially after rain that does not penetrate below the surface, the wide tires are positively dangerous. Even with the narrow tire they sometimes have all they can do to keep the wagon from sliding off the grade.

Riverside.

PARASITE ON YELLOW SCALE.—*Enterprise*: Capt. Bosworth of Highland, J. F. Fink of Ontario and R. T. Curtis of San Bernardino came over especially to see what progress the parasite for yellow scale is making in the orchards infected with that scale. This parasite, which is technically known as the *Cocophagus citrinus*, was introduced here some three years ago to operate on the yellow scale, and the little insect has done great work. In fact, it is deadly on the scale, and since its introduction has about cleared that variety of scale from the few orchards where it had found lodgment. So well has the parasite worked that since its introduction three years ago the commission has found it unnecessary to do any fumigation for yellow scale, and the cost for exterminating that scale in the past three years has been nothing.

San Bernardino.

WELL BORING.—*Champion*, Aug. 18: W. H. Delphy has decidedly the smallest big—or the biggest small—artesian well on the ranch. He, with Porter Wilson, attempted first to drive a well, but the clay was too tough, and they then improvised well tools with a 2-inch auger and a pump made of 1½-inch water pipe. They worked down to a depth of 78 feet with these, and got a small flow of water. They continued, however, to 90 feet, when they struck a strong artesian stream, which threw the sand and gravel out with force. The water now flowing from it measures 16 miner's inches. O. J. Newman, at the present time, holds the record for a dry-year artesian well. He has a pasture field southeast of town, in which he wanted water for his horses. He had a dug well sunk, expecting to put in a pump. The ground was apparently quite dry and hard until a depth of 12½ feet was reached, when sand was struck, and the water came in so fast that even the curbing could not be completed. The water boiled over the surface and spread over the land. It is a veritable artesian well, 12½ feet deep.

THE BEET HARVEST.—The factory will commence slicing beets, as before announced, on Saturday, Sept. 26th. Steam was turned into the factory yesterday for the first time this season, as Chief Engineer Miller said, "just to warm up the pipes."

THAT BEET KNIFE.—I. Goble has received letters patent on his device for expediting beet topping. Mr. Goble's first plan was to make a topping knife similar to the ordinary hand knife used, but with a square end, with a sharp spike projecting an inch or two from the sharp edge of the end. This is simply for the purpose of picking the beets out of the soil with the right hand and conveying them to the left hand, when a slight twist releases the spike and another clip of the knife cuts off the top. Mr. Goble now further simplifies the manufacture of the article by making only the spike as an adjustable attachment to the ordinary knife, so that it can be bought and attached to knives already in use as well as new ones.

BUG INSPECTOR.—*Sun*, Aug. 18: The horticultural commissioners have appointed A. L. Dean a bug inspector for the Ontario district. The appointment is a good one, as Mr. Dean has been in charge of the fumigating apparatus here for two years and is thoroughly conversant with the requirements of his position.

PEACH DRYING.—Redlands *Facts*, Aug. 18: The peach drying season is now on in full force, so far as it can be said to have force this year. None of the driers are working full time. The peach crop is light. The aggregate for this season will scarcely exceed 1000 tons of green fruit. The quality of the fruit is, however, as good as the average and the prices will rule high. There was something over 1500 tons of green fruit, or about 250 tons of cured apricots dried this year. The demand for the fruit has been active and prices have been high. The crop has already been disposed of, so that there is probably less than a ton in the hands of the growers at the present time.

San Joaquin.

HATCHETING THE CODLIN MOTH.—Stockton *Mail*, Aug. 18: Fruit Inspector M. B. White is doing a good deal of work with his little hatchet at the free market in the mornings. He had quite an experience recently when an Italian came in who have never gone to the free market before and knew nothing about the fruit inspector and his inquisitive ways. The man had left his wagon a few minutes, and Mr. White came along and discovered two boxes of the wormiest pears he had seen for some time. Without a word he took his hatchet and began to cut them to pieces. He was just finishing the task when the owner returned. He was so astonished that he stood and gazed first at the box and then at the inspector for a few seconds, and then, with a wild yell, he began to kick the mangled fruit up and down the sidewalk until it was kicked almost to a jelly. Then, with a threatening look, and a volley of curses, he followed Mr. White, who was mounting his wheel to ride away, but fear of the little hatchet, which was in full view, kept him from giving the inspector the thrashing which he would have liked to give him. At last some other Italians, who understood what the trouble was, succeeded in calming their friend, but he has not been seen at the free market since then.

GOAT DOGS.—*Mail*: C. H. McGurk of this city, a well-known stock buyer, while in the vicinity of Blue mountain recently was surprised to see in a band of Angora goats belonging to James Gambetta two yellow-coated animals running about which he at first mistook for coyotes, but which proved to be dogs and the guardians of the goats. The canines watched so faithfully over their charge, and showed such fondness for the goats, that when one of the latter was to be killed Mr. Gambetta explained that it was first necessary to tie the dogs. The dogs were brought up from puppyhood for the purpose to which they were put. Before their eyes had opened they were given to a goat to raise, and she adopted them as members of her family. Later, when they were pretty good sized puppies, but still too young to go afield with the goats, they were left in a corral with the kids. The dogs protect the band from coyotes, which infest the neighborhood of Blue mountain.

San Luis Obispo.

SEED GROWING.—Arroyo Grande *Herald*, Aug. 19: L. C. Routzahn, the manager of the McClure Seed Company, is now in the midst of harvesting and threshing the forty acres of sweet peas on the home place about two miles down the valley. There are 100 varieties on the place, and it is expected the yield will be something over 1000 pounds to the acre. On the Sperry ranch, in Tar Spring canyon, where sweet peas do not thrive, but where onions produce wonderfully, Mr. Routzahn has sixty acres of that odorous vegetable, which he says makes really a very pretty sight when in bloom. Here, also, are thirty acres of lettuce and fifteen acres of salsify, or oyster plant. Of this latter he supplies the two largest seed firms in the United States with seed. Mr. Routzahn is also growing to some extent mignonette, verbenas and nasturtiums on the lower place.

Santa Barbara.

BIG GRAPE VINE IS DEAD.—*Press*, Aug. 17: The Montecito big grape vine, so long a landmark and a point of interest to the Eastern tourist, has finally been cut down and all but its trunk destroyed. Yesterday afternoon the trunk was brought in from its old home and was taken to the grounds of the Chamber of Commerce building. To-day it will be placed in its next resting place, in the reception room of the Chamber. It took ten men to lift the heavy trunk from the ground upon a low truck, and it took the largest truck in the city to carry it.

IRRIGATED ONIONS.—Lompoc *Journal*, Aug. 19: Mr. Schuyler has a crop of Yellow Danver onions on irrigated land on his farm, that will exceed 500 bushels per acre, and the choicest lot of onions ever sent to market.

CEREALS.—The more recent account of the cereal product of this section places the barley product at 150,000 bags, and mustard at 25,000 bags. The last estimates are far above the first estimate early in the season. The fruit products will reach, all told, something like sixty carloads.

HORSES FOR THE ARMY.—Uncle Sam is buying horses for cavalry service in the Philippines. Mr. G. W. Roberts, the agent for the Government, is commissioned to purchase 300. He secured quite a number in San Luis Obispo county. The animals wanted must be well broke, and free from blemishes. They must be from fourteen to fifteen hands high and weigh 900 to 1000 lbs., and not under five or over seven years old.

Santa Clara.

PHYLLOXERA.—A San Jose dispatch states that the dreaded phylloxera is making sad ravages among the vineyards of Santa Clara this year. According to Secretary Barsow of the Board of Trade, it will be a matter of about four years before all the vines not on resistant stocks will be destroyed. Grape growers are alarmed at the inroads the pest is making, and are planting resistant vines as fast as they can secure them. Josia Stanford of Warm Springs, just across the line of Alameda county, has pulled up all his old vines and will plant grain for a year or two. Buhb's big vineyard in West Side, among scores of others, is seriously menaced. In fact, the pest is assuming the proportion of a plague.

Solano.

THE RIVER LANDS.—*Republican*, Aug. 18: Mr. R. D. Robbins says that the farms on the Sacramento river islands are the most productive of any in the State. Forty sacks of grain to the acre is not an uncommon occurrence. Some fields yielded as high as seventy sacks of barley to the acre this season. Alfalfa hay is produced in abundance, five crops being harvested in a single year. Of course irrigation is resorted to, but water is obtained at a small cost. The islands being lower than the surface of the river, large pipes are used as siphons and the water is started by pumps. When once started a steady flow of water through 10-inch pipes is secured with no expense except that incurred in ditching, and great areas of rich soil are thus irrigated. Mr. Robbins could not find words to express his astonishment at what exists in agricultural richness almost within the borders of our own county.

Sutter.

COYOTE KILLING.—*Appeal*, Aug. 18: For many years coyotes have been a menace to the sheep in the Buttes of Sutter county, and at certain seasons of the year some losses have been sustained by the raids of these destructive animals. Their depredations, however, were confined to the Buttes, and it was very seldom that they would be found on the plains or along the river bottoms until during the spring and summer of the present year, when they have been frequently seen, and their bold attacks on sheep and small calves have been reported by several persons, especially by farmers living in the southern part of the county. Yesterday morning Emmett O'Connor, a well-known farmer who resides in the neighborhood of O'Banlon's Corners, killed a large coyote in his field a short distance from his house. The animal was brought to Yuba City, where the scalp was removed by the county clerk, and Mr. O'Connor received the $5 allowed by an ordinance of that county. For several years there was no bounty offered for these animals in this county, and the fact that they have been practically unmolested probably is the cause of their present boldness in extending their foraging tours beyond the boundaries of the Buttes.

IRRIGATED PEACHES.—Gridley *Herald*, Aug. 19: The editor received a box of peaches this week from the Cutts orchard near Live Oak. The fruit was of the California Cling variety, and for size and beauty was the best it has been our privilege to see in the whole State. The peaches were four inches in diameter, and four of them, when cut in half, filled a one-quart can. Mr. A. D. Cutts, the manager of the orchard, has resorted to irrigation for several years past, and the fine, large fruit is the result of the watering and subsequent good care of the orchard. Canners who have received peaches from this orchard praise it as the very best ever grown in the county.

Tulare.

THE HARRELL SILOS.—*Times*, Aug. 17: Among recent improvements on the Harrell ranch, six miles north of Visalia, are the three silos about a half-mile west of the family residence. The nearest to the house is the one from which two men met their death while engaged in its construction. Mr. Christman says that they run through about fifty loads of hay per day and that it takes six or eight days to fill a silo, which means they hold between 300 and 400 wagon loads of hay after the chopping process is gone through with. Their height to the eaves is 30 feet and the diameter 35 feet, and he was told that those dimensions would make space for 315 tons of ensilage.

Ventura.

THE TOMATO DISEASE.—Ventura *Democrat*, Aug. 18: A peculiar disease, it is reported, has attacked tomato vines in many portions of the State and, as a result, a sharp rise in the price of the canned vegetable is anticipated. We think it probable that many of the plants in this locality are affected, as they present a drooping appearance and the fruit is comparatively of an inferior quality.

SUGAR FACTORY OPENED.—Oxnard letter, Aug. 22: To-day at Oxnard the first sugar made in Ventura county was turned out by the American Beet Sugar Company's factory, the first beet sugar factory in the United States to begin operations this season. Preparations had been made to open the campaign several weeks ago; but, owing to the newness of the machinery and to several mishaps which have occurred in different parts of the factory, operations have been delayed. The output for the present will be 2500 sacks of sugar per day, but it is the calculation to double this in a few weeks. The factory will run continuously night and day for the next four months, when 150,000 tons of beets will have been converted into sugar.

Yolo.

POLISH RYE.—*Mail*, Aug. 22: M. T. Emmert, who farms near Dunnigan, obtained ten kernels of white Polish rye from the World's Fair at Chicago, which he planted and cultivated carefully, replanting each year up to and including the present, with the result that this year he harvested 150 sacks. He finds it a very hardy cereal, one that will actually grow and produce well in alkali ground. Even in poor soil it will average from eight to twelve sacks per acre. Another thing that recommends it is that is cannot be shelled out by the wind like wheat. This is a new grain our farmers should experiment with. It resembles wheat very much, and might be used as a substitute. The change might also benefit the soil.

ARIZONA.

SHEEPMEN'S ASSOCIATION.—Phœnix *Farmer*, Aug. 4: The Arizona Wool Growers' Association has been organized with the following charter members: T. E. Pollock, E. S. Gosney, H. E. Campbell, Ambrosio Candelario, Richard Gibbons, A. F. Potter, Robert Scott, J. D. Houck and H. H. Scorse. The object of this association is to secure the united effort of each wool grower, whose animals graze on any of the United States forest reserves, to fully co-operate with the Government in all matters for the protection of such forest, and to give special aid and assistance for the prevention and suppression of forest fires, which is the arch enemy of the forest.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

FOR SALE.—BEAUTIFUL ORANGE AND Lemon Groves in Glendora. Free from frost. Good supply of water. Good churches and schools. No saloons. Correspondence solicited. S. J. MILLER, Glendora, Los Angeles Co., Cal.

THE HOME CIRCLE.

California's Yesterday, To-day and To-morrow.

Bright the sunshine shone—its splendor
Touched the summer earth and skies;
All the mountains stood resplendant—
Altars lit for sacrifice.

Flamed the treetops in their brightness,
And the rocks were touched with fire,
As upward through heaven's cloudless pathway
Climbed the round sun high and higher.

Like an ocean stretched the valleys,
Reaching to the horizon's rim,
Save where rose the grand Sierras
Wailing all their vastness in.

Here and there were ranch and cottage,
Bleating flocks and lowing herds,
Lonely shepherds in the silence,
Only cheered by song of birds.

And the Indian stood and worshiped
Where his altar fires did glow—
Saw his God within the sunrise,
Felt His breath in breezes flow.

Here he reared the missions olden,
Planted olive tree and vine,
And his new-learned aves chanted
At the mission's sacred shrine.

Yet undreamed of was the glory
Of the gracious years to be,
All unborn the mighty empire
That should stretch from mounts to sea.

Not till o'er this land of sunshine
Were the Stars and Stripes flung free
Did our germ of empire brighten
With the flower of liberty.

Now, the glory of the ages,
Fairest gem in Freedom's crown
Is this mighty State, now smiling
Where Sierra's heights look down.

On the wide and gracious valleys
Where our emerald orchards grow,
And the fruit-crowned vineyards glisten,
In the golden sunlight's glow,

Here forever in the future
Shall the sons of Freedom turn;
Nursed by Nature's grandeur, shall they
All the tyrant's shackles spurn.

Here shall Freedom's grandest triumphs
In the coming years be won;
Growing empire's steps shall hasten
Hither, toward the westward sun.

—Eliza A. Otis in Los Angeles Times.

William Patterson's Money.

"Well, who would a' thought that your father would a' left such a queer will as that!"

"That's just what he did. It said: 'I give and bequeath to my only son, Joel Patterson, my entire estate, and ten thousand dollars in money, when he finds it.' Then here is the letter that he wrote to me."

Joel Pattersen passed to his friend a olded paper containing the last message from his father.

"My Dear Son: I am getting to be an old man and by the ache in my bones I feel that I have not long to stay upon earth. I have been a hard worker in my time, as you know, and have a well-stocked farm and ten thousand dollars put away. It has always been a sorrow to me, Joel, that you never took to farming, nor to anything else much, except your wife and baby. She's dead and you can't bring her back, so make the best of life and work for Tim's future. It has always been my pride to have the best paying farm in the county. Keep it up, Joel; it is in good order now and needs only energy on your part to keep it at the head. Nothing was ever gained except by work. I always had the finest cows, the fattest pigs, and never failed to win the prize at the county fairs for the largest punkins. Raise punkins, Joel, it pays. I have saved the seed of the finest ones which you will find in a paper in my old desk. Keep up the family pride and teach your boy to do the same. The ten thousand dollars which I have saved is yours, if you will work for it. Don't think I want to keep it from you, Joel—but I want you to run the farm in as good order as I have, and if you do that, you'll find the money I have saved and make more besides. But it means work. You can't sit down and fold your hands and think—you must keep a-going; then when you come to die, you'll have something to leave to Tim. May God bless you both is the earnest prayer of

"Your affectionate father,
"William Patterson."

"Well, that is queer!" said Sam Baker as he returned the latter to Joel, "he meant that you should work to find it."

And Joel did work, but not in the way his father meant. He took up all the carpets in the house to see if it was hidden under them; he ripped up the floors and peered beneath, expecting to find a pot of gold. He sounded the walls of a secret cupboard where it might be stowed away, and he thoroughly examined the old desk for some unknown drawer or cubby-hole that might contain it. The he pried up the bricks upon the hearth, he dug up the cellar, with no result, and then he went outside. People said that Joel Patterson never worker so steady in all his life, but still he did not find the money.

Some days he would spend the time with his head buried in his hands, thinking, thinking, where could the money be. He would go to bed at might and with that one thought in his mind would dream that it was buried under the old apple tree at the end of the orchard. Morning would find him there digging with feverish haste but with no result. One night he dreamed it was in the garden under the punkin vines, and he pulled them up and plowed and spaded and worked as he never had before.

Time went on and the farm ran down. Weeds grew in the garden, the corn needed hoeing, and bugs ate up the potato vines. The cattle looked poor and ill-fed, the farm implements were out of repair, the fences were rickety and the house needed a coat of paint.

Neighbors shook their heads when they saw things going to ruin, and thought Joel Patterson was crazy. But he sat and dreamed of the hidden money and then took spells of searching. He hired men in season, and things went on in slip-shod fashion, so they had a living and that was all. Joel dreamed his time away, and then hunted again.

His son, Timothy, grew to be a big boy and did chores nights and mornings, for he went to school. He had heard of the money ever since his grandfather's death, and every day when he came home he asked if his father had found it.

"No! an' he never will!" said Elvira Hopkins, their housekeeper, and a distant cousin of Joel's. "That ain't what Uncle Billy meant—for him to go dreamin' an' diggin' an' dreamin' again an' lettin' things go teetotally to ruination. He wanted him to run the farm as 't oughter be, an' he'd find it. Fur pity's sake, Tim Patterson, I hope you ain't agoin to be sech a fool as to go an' do as your father does!

"When you git old enough I hope you'll have some o' the spunk your grandfather had, an' take hold an' run things as they oughter be! Jest think what a feather it be would be in your cap, to have this place lookin' as it uster an' makin' the money it uster. Then it wouldn't matter so much if you didn't find the other money. But I believe if Joel'd foller the advice given in the letter he'd a found it long ago. Tim, you're more like your grandfather anyway, an' you're not lazy, that's certain. Go out like a good boy now, an' fill my wood-box for me!"

Tim went after such a compliment as that and the wood was piled high for Elvira. He worked with a will and was always thinking what he would do for the old farm when he became a man. Elvira praised and encouraged him, and really instilled in the boy's heart a desire to restore it to its former prosperity.

As the years went on Joel Patterson became morose and ugly. He was so irritable and unhappy that he neglected the farm more than ever. Finally it ran so behind that he had to put a mortgage on it.

As Tim grew older, inspired by Elvira's constant suggestions, he took an interest in things and did all that he could to keep it up. He mended the fences, painted the house, repaired the barn and fed the stock, but he got no encouragement from his father. Joel only growled and felt that life was not worth living without that ten thousand dollars.

At last Tim fell in love with Sarah Grant. They had known each other since childhood and the courting had been going on at singing school, church sociables, and husking bees. Joel Patterson had been too much wrapped up in his own discontent to know what his son was doing, and when Timothy told him that he and Sarah were going to be married, he woke from his indifference for once, and sturdily opposed it.

"What are you going to live on?" said he.

"Why, I'll bring her right here. Elviry ain't very well, an' she'll help her with the work."

"Not ef I know it! You ain't agoin' to bring her here! I've got enough trouble with one woman bossin' aroun' an' I ain't agoin' to have another. Besides, we ain't makin' any money. I've got to borrow more to keep agoin' an' now you talk o' gittin' married an' makin more expense!"

"I won't be any more expense, father; Sarah's a good manager an' could take the heft of the work off of Elviry!"

"An' do you think she'd let her? Why, boy, you must be crazy! You don't know Elviry."

"Ef you'd let me manage the farm, I could make it pay, I know I could. Grandpa did, and I could, too, ef you'd only let me do as I want to about things."

"Oh, yes," growled Joel, "you think you know it all, don't ye? You're stickin' yer fingers in the pie an tryin' to tell me I don't know how to run this farm. Like all the rest of 'em—meddlin' in what doesn't consarn ye! I know my business an' I ain't agoin' to let no young feller like you run me. I've wore myself out workin' now, and, ——"

"But, father, you weren't workin' the farm, you was huntin' for the money!"

"An' don't it take money to run the farm? Ef I could only find it, I'd show folks what I'd do!"

"Sarah's a nice, handy girl an' it would make it easier all aroun'. She has a good disposition—not one o' the fussy kind," pleaded Tim.

"Much you know about it!" sneered his father. "You have to summer an' winter with a woman to find out what her temper is. No, you can't bring no wife here. I won't have it, an' that settles it!"

Timothy bit his lip to keep from giving an angry reply, and went off to see the object of his affection.

They talked it over, and Tim was inclined to leave his father's place and work elsewhere, but Sarah advised prudence. He might get angry and disinherit him.

"What difference if he does" said Tim. "The farm is mortgaged now, an' at the rate it's runnin' down will soon be worth no more than what's borrowed on it. What will be left for me? Ef he'd let me manage it, I could make it pay, but he won't and that's the trouble. He'll sit still an' fold his hands, an' before long it'll be taken away from him."

Still Sarah advised patience and perhaps something would turn in their favor. Tim was discontented but took her advice, and it was not long before he was rewarded.

Elvira became very ill and was confined to her bed. There was nobody to do the work. Joel and Tim took turns at it, but soon became disgusted. Then Joel's rheumatism came on, and Tim scoured the country for a housekeeper, but there was none to be found. Joel in his heart then wished that he had consented to Tim's marriage to Sarah Grant. One day he was in great pain and timidly ventured to hint about her.

"Tim do you think that Sarah would——"

"No, I don't," said Tim. "Do you suppose she would come where she wasn't wanted? I wouldn't ef I was her. It wouldn't look right for her to come here anyway unless we was married."

Another twinge caused Joel to say:

"Do you think she would marry you, Tim?"

"I don't know whether she would or not," said wily Tim, "after the way you talked a short time ago. She has some pride and may refuse me now. She'll think you only consent because you need her."

"We do need her, Tim, an' we'll need her more if Elviry don't get well. I'm sorry I spoke as I did. Tell her so, Tim, an' mebbe she'll forgive me. Tell her I'm a poor, sick old man an' would like to have a darter."

Pain had weakened Joel Patterson's resolution, and he was very meek and humble. He felt the need of a woman's care and it softened his heart. He pitied himself until his eyes filled with tears.

"Go tell her, Tim," he said with a childish whine.

Tim went with apparent reluctance, but with alacrity in his heart. Sarah was not so hard-hearted as he had represented her, and the young people were only too glad to get married without incurring the displeasure of the father.

Mrs. Timothy Patterson was a young woman of energy and spirit and took the reins of the household with the hand of a veteran. It was not long before things were running smoothly and comfortably and the two sick ones were improving under her care, while Sarah and Tim were as happy as if they were spending their honeymoon under more favorable conditions.

As soon as Joel began to get better, his irritability asserted itself, and he became cranky again. In fact, he disliked to admit that Tim was right, and that it was better to have Sarah there. He liked her, and liked the way she managed things, which left him no excuse to say "I told you so." Then he fretted constantly about that.

Elvira got better, Tim was beaming and Sarah sang about her work and ministered unto her father-in-law, but drew from him no expression of thanks or approval.

One day Tim spoke to him about it.

"Father, things are runnin' in fine order now, an' yet you are not happy. Now what's the matter. If you don't want my wife here, I'll take her away, for you're not treatin' her right. She came in time of need, and has done all that could be done, an' yet you are sour an' never give her a pleasant word."

"I know it, Tim," admitted Joel. "I'm a crank; I've fretted for fifteen years about that money, an' now I'm old before my time. Sary's all right; I like her—but nothing can suit me until I find it. Ef that would only come to light, I'd feel easy an' be willin' to take a back seat an' let you run the farm as you want to. I made a mistake, Tim. I oughter done as my father wanted me to, an' I'd be a prosperous and happy man to-day. You've got the right stuff in you, my boy; you are more like the old man. I'm no good any more. Take the farm an' run it, an' jest give me a home here an' I'll be satisfied. I'm tired of it all." And poor Joel broke down and wept.

Tim told Sarah about the conversation with his father.

"Let me see your grandfather's letter," she said.

Tim took it from the desk and she read it carefully.

"Did your father ever raise any pumpkins, Tim?"

"No; I don't believe he ever did."

"Did you?"

"No."

"Well, why didn't you?"

"Because my father never would let me do as I wanted to, an' thought I was tryin' to boss the farm."

"Where is the paper o' pumpkin' seed?"

"Here in the desk."

"Let me have it."

"Oh, there's no money in that; I've had it in my hands a dozen times, an' so's father, an' we've shook it, an' its as light as can be."

"An didn't you ever open it?"
"No."
"Give it to me!"

Tim laughed and handed her the paper, tied with a string, just as old man Patterson had left it years before. Sarah untied it and found the seed and a small folded paper. Tim drew closer and looked over her shoulder as she opened it, and they read:

$10,000.

CHICAGO, Ill., June 10, 1880.

On demand pay to the order of Joel Patterson, or his heirs, $10,000, with 6% interest.

WM. PATTERSON.

To the Home Savings Bank, Chicago, Ill.

Tim looked at the paper spellbound for as much as a minute. Then he said slowly:

"Well—of all the darned fools on the face of the earth, father an' me's the darndest."

They took the valuable find to Joel, who wept in his joy.

"Take it, Tim, pay off the mortgage an' run the farm, an' may the Lord prosper you!"

And he did. Within a few years the place was up to the standard of its palmiest days and Joel and Elvira sat back and took things easy, while the neighbors smiled approval and said that the sensiblest thing Joel Patterson had done for fifteen years was when he let Tim and Sarah run the farm.—Virginia Hunter.

Our Boys.

David Starr Jordan of Stanford University is always saying something good. Here is one of his gems on what shall become of our boys now growing up in California. It is a problem well worth the study of all men and women, whether they have children or not:

"Some fifty thousand boys are today at play on the fields of California. Which of these shall be the great, the good of California's next century? Which of these shall redeem our State from its vassalage to the saloon and spoilsman? Which of these shall be the center of sweetness and light, so that the world will say, 'It is good to have lived in California!' Good not alone for the climate, the mountains, the forest and the sea, the thousand beauties of nature which make our State so lovable, but because life in California is life among the best and truest of men and women. This record California has yet to make; and there are some among you, I trust, who will live to help make it. These fifty thousand boys form a part of what will be the masses. Let us train them as well as we can. Let us feed them well. Let us send them to school. Let us make them wise, intelligent, clean, honest, thrifty. Among them, here and there, is the future leader of men. Let us raise them from the masses, or, rather, let us give him a chance to raise himself; for the pine tree in the thicket needs no outside help to place its head above the chaparral and the sumac. To break up the masses, that they may be masses no more, but living men and women, is the mission of higher education."

THE excellency of hogs is fatness; of men, virtue.

If you know how to spend less than you get, you have the philosopher's stone.

He is no clown that drives the plow, but he that doeth clownish things.

Diligence is the mother of good luck.

Wealth is not his that has it, but his that enjoys it.

Do not do that which you would not have known.

Now I've a sheep and a cow everybody bids me good-morrow.

—From Poor Richard's Almanack.

"I WISH we had a horseless carriage," said the farmer's son. "We have," replied the farmer; "and now that you speak of it, you might as well get it and bring a load of potatoes up to the house."

Nor knowest thou what argument
Thy life to thy neighbor's hath lent,
All are needed by each one;
Nothing is fair and good alone.
—Emerson.

Blessing of the Cornfields.

All around the happy village
Stood the maize fields, green and shining,
Waved the green plumes of Mondamin,
Waved his soft and sunny tresses,
Filling all the land with plenty.

Summer passed, and Shawondasse
Breathed his sighs o'er all the landscape,
From the southland sent his ardors,
Wafted kisses warm and tender;
And the maize field grew and ripened
Till it stood in all the splendor
Of its garments green and yellow,
Of its tassels and its plumage,
And the maize ears, full and shining,
Gleamed from hurstling sheaths of verdure.

Then Nokomis, the old woman,
Spake and said to Minnehaha:
"'Tis the moon when leaves are falling,
And the wild rice has been gathered,
And the maize is ripe and ready;
Let us gather in the harvest,
Let us wrestle with Mondamin,
Strip him of his plumes and tassels,
Of his garments, green and yellow!"

And the merry Laughing Water
Went rejoicing from the wigwam
With Nokomis, old and wrinkled,
And they called the women round them,
Called the young men and the maidens
To the harvest of the cornfields,
To the husking of the maize ear.

—From Longfellow's "Hiawatha."

How to Succeed.

The late Sir Andrew Clark, a successful Canadian, is reported to have given the following views on success: "Firstly, I believe that every man's success is within himself, and must come out of himself. No true, abiding and just success can come to any man in any other way. Secondly, a man must be seriously in earnest. He must act with singleness of heart and purpose; he must do with all his might and with all his concentration of thought the one thing at one time which he is called upon to do. And if some of my young friends should say here, 'I cannot do that—I cannot love work,' then I answer that there is a certain remedy, and it is work. Work in spite of yourself, and make the habit of work, and when the habit is formed it will be transfigured into the love of work; and at last you will not only abhor idleness, but you will have happiness out of the work which then you are constrained from love to do. Thirdly, the man must be charitable, not censorious—self-effacing, not self-seeking; and he must try at once to think and do the best for his rivals and antagonists that can be done. Fourthly, the man must believe that labor is life, that successful labor, with high aims and just objects, will bring to him the fullest, truest and happiest life that can be lived upon the earth."

"YOUR hair is getting thin, sir," said the local barber to a customer. "Yes," replied the gentleman addressed. "I've been treating it with anti-fat. I never liked stout hair." "But you really should put something on it," persisted the tonsorial artist in a most earnest manner. "I do, every morning," returned the customer. "May I ask what?" inquired the barber. "My hat," said the patron.

Knowledge and Wisdom, far from being one,
Have oftimes no connection. Knowledge dwells
In heads replete with thoughts of other men;
Wisdom in minds attentive to their own.
Knowledge, a rude, unprofitable mass,
The mere material with which Wisdom builds,
Till smooth'd and squared, and fitted to its place,
Does not encumber whom it seems to enrich.
Knowledge is proud that he has learned so much;
Wisdom is humble that he knows no more.
—Cowper.

We live in deeds, not years; in thought, not breath;
In feelings, not in figures on a dial.
We should count time by heart throbs when they beat
For God, for man, for duty. He most lives
Who thinks most, feels the noblest, acts the best.
—P. J. Bailey.

Music hath charms to soothe a savage breast,
To soften rocks or bend a knotted oak.
I've read that things inanimate have moved,
And, as with living souls, have been inform'd
By magic numbers and persuasive sound.
—Congreve.

He prayeth best who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all.
—Coleridge.

DOMESTIC ECONOMY.

One Way to Prevent Mould.

In a letter to the *Pacific Farmer*, Laura L. Kirchem writes as follows on this subject:

"Not long since I noticed an article in your paper speaking of a discussion on the causes of mould on canned fruit. Now I am neither a professional nor an expert on canning, but, if experience counts, I will gladly give my fellow-housekeepers my mode. I am a farmer's wife and usually can 200 half-gallon Mason jars of fruit annually for home use, and very seldom have a jar mould. In the first place, remember that cleanliness (thorough at that) is all important; second, good jars (I use the Mason patent); third, good black rubbers, two on every jar. Soak your rubbers in quite warm water or add a little soda or ammonia to the water if rubbers are hard. Put the caps into boiling water, leave in and use as wanted by lifting out with a spoon; put on your jar, then seal. Be sure that the seal is perfect, take a large knife, run the back around rim of cap and press down uneven places. After filling the jar with fruit, shake gently to let the air bubbles rise to the top; let set two or three minutes, fill even full, then seal. Set your fruit aside, cover over with a tablecloth or anything convenient, so it cools slowly. When cold, put in a cool, dark place. If you will try this mode of treatment, you will not have very much mould to contend with. Do not forget the two rubbers and boiling water!"

To Boil Corn.

This is the season when one of the best vegetables we have is spoiled by ignorance and over-cooking. There is nothing so sweet, so delicate and delicious as an ear of corn properly cooked, and there is nothing more tasteless and unpalatable than corn when it has been boiled half an hour and perhaps left soaking in water.

Do not cook your corn more than eight or ten minutes. Put it in a good-sized boiler which contains just as little water as can be kept from boiling away in the time it takes to cook the corn. Place the corn in crosswise—any way so that it will not be packed solidly together, but will leave room for the steam to circulate about each ear. Put a tight cover on the kettle and a clean dish towel over that, if necessary, to keep in the steam. Then cook for eight or ten minutes, and the result will be corn that is worth eating.

The trouble with most housekeepers is that they try to cook the cob. If the center of the cob has a green look, they put the corn on to cook more. That is nonsense. Common sense shows that if the corn is only properly cooked, that big piece of woody substance inside it will not be, or that if the thick cob is cooked the corn will be overdone.

Hints to Housekeepers.

The long-handled lemonade spoon is an iced tea and coffee spoon as well, and it is a most satisfactory article to use in the tall glasses in which the iced summer drinks are served.

To keep a pitcher of ice water in the bedroom all night without any perceptible melting of the ice, wrap it in several thicknesses of newspaper, with the ends tightly twisted together to exclude the air.

To keep children's stockings mated, that the wear may be equal, it is a good plan to sew 3 inches of tape to the top of each stocking leg. They may then be tied together when taken off, and sent thus through the laundry.

Unless vegetables are taken direct from the garden, they are always improved by freshening in clear, cold water. This is especially true with cabbage, cauliflower, lettuce, beets, asparagus, brussels sprouts, cucumbers and pie plant. If new potatoes are soaked thus, the work of scraping them is made much easier and the potatoes themselves will be found mealier. Onions should always be soaked, and if they are to be used in a salad, press in cold water in order to remove the acrid part of the vegetable.

With the most careful calculation there is frequently coffee left over, not enough, perhaps, for another serving as a beverage, but too much to be wasted. Do not leave it in the pot with the grounds, but pour it off or strain it carefully; and if it be used again hot, let it just come to the boiling point. This will be much nicer than to reheat it with the grounds. It may be used to dilute the egg for the next morning's coffee, or as a flavoring in custards and creams and ices, or as the liquid in place or with milk in gingerbread, cookies, cakes, etc., or when there is sufficient quantity it can be made into jelly.

Coffee fromage is a fine dessert for an August dinner. Pour one pint of scalding hot milk over one-third of a cup of ground coffee and let it stand for twenty minutes. Strain through a clean, wet cloth. Have one tablespoonful of gelatine soaking in one-third of a cup of cold water. Add to this the coffee mixture, with five tabespoonfuls of sugar. Put in the double boiler; when scalding hot pour some of this over three egg yolks. Return all to the double boiler; bring only to the boil. Remove from the fire; pour into a bowl. When cold and beginning to thicken add one cup of cream whipped to a stiff froth. Turn into a mould; pack it in; let stand one or two hours. Serve on a glass platter.

The towels that should always hang in the bathroom are, first and foremost, the bath towels of the best quality and largest size. Then there should be the very fine damask towels, and also two or three towels of rather heavier damask, and a very fine face cloth. This face cloth will often remove dust and dirt from the face where a sponge is practically useless. The number of sponges can only be decided upon by one's personal ideas, but there must be at least two—one large and one small. A much-disputed question of the day is the soap. The fine French soaps are the pleasantest, but they do not agree with every one's skin. In fitting up a bathroom for a guest there must always be a cake of fresh soap in its paper wrappings. This soap can afterwards be taken, washed off, and used by children or servants, but it is the height of rudeness to offer a guest any soap that has been used before.

Domestic Hints.

GOLD CAKE.—Cream one-half of a cupful of butter, add one cupful of powdered sugar and cream again. Stir in the well-beaten yolks of six eggs, add two cupfuls of sifted flour, the grated rind and juice of one large orange, beat well for five minutes, add one heaping teaspoonful of baking powder and bake in a moderate oven.

TOMATO SOUFFLE.—Boil half a dozen large tomatoes until soft, rub through a sieve, put the pulp in a saucepan and let it boil thick. Add the beaten yolks of three eggs, stir for a minute, remove from fire, then drop the beaten whites in carefully, adding a level teaspoonful of salt. Fill small souffle cases with the mixture and set in a hot oven till light.

POTATOES AU GRATIN.—Make one cup white sauce. Cut one pint cold boiled potatoes in small dice, moisten one-half cup fine cracker crumbs with one tablespoon melted butter and crumble one-half cup cheese. Butter a baking dish, put in potatoes, cheese and sauce, two layers of each, cover with the crumbs and bake fifteen minutes, or until crumbs are brown.

TURKISH SOUP.—Bring to the boiling point one quart of stock, veal or mutton preferred. Add to it one teaspoonful onion juice, a blade of mace, a bay leaf and a little parsley. Simmer fifteen minutes. Strain, add two-thirds of a pint of milk, salt and pepper to taste. When ready to serve, take the kettle from the fire and add quickly the yolks of two eggs, beaten with two tablespoonfuls of cream. Serve with cheese croutons and sliced lemon.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 23, 1899.

Chicago Wheat Futnres.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Sept.	Dec.
Wednesday	70⅜@71	72⅜@73½
Thursday	71⅝@71¼	74⅛@73⅝
Friday	72 @71	74⅛@73¼
Saturday	72¼@72⅝	74¼@74⅜
Monday	72⅜@71⅞	74¼@73⅝
Tuesday	70⅝@71⅝	73¼@73⅞

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 9⅝d	5s 11½d
Thursday	5s 10½d	6s 0½d
Friday	5s 10½d	5s 11¾d
Saturday	5s 10½d	6s 0⅜d
Monday	5s 10¾d	6s 0¾d
Tuesday	5s 10¼d	6s 0¼d

San Francisco Futnres.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 13⅛@1 12⅝	1 17⅞@1 18¼
Friday	1 13¼@1 13⅛	1 18⅜@1 17⅞
Saturday	1 13⅞@1 14¼	1 18¾@——
Monday	1 13¾@1 13¼	1 18¼@1 18
Tuesday	1 12½@1 13¼	1 18⅛@1 17¾
Wednesday	1 13¾@1 13⅜	1 18⅛@1 18½

Wheat.

The spot market for wheat is less favorable to buyers than it was a week ago. Quotable rates for shipping grades have advanced 25c per ton, making 50c per ton for the fortnight, and this in face of a high freight market, with scarcity of ships. The speculative market also shows more firmness than last week, but was higher immediately following last review than for several days past. Remote deliveries are showing the most strength. Chicago yesterday was 1¼c per bushel higher for December wheat than on corresponding day previous week. For same period and same option the English market showed an improvement of nearly 2c per cental. To-day (Wednesday) the Eastern speculative markets are fractionally firmer.

Although general conditions appear without doubt to warrant higher prices for wheat than are ruling, exporters and millers are very slow in advancing bids. Competition among millers has been reduced to a minimum in this market, owing to the combination of numerous mills under one management. On the other hand, competition in the selling of flour is as pronounced as ever, on account of the surplus product of many outside mills being sent to this center for disposal. The pressing to sale of these outside flours on the local market has caused millers here to be less exacting in the matter of quality than in former years, price being at present more of a consideration. This makes it difficult to place high-grade milling at the premium which it readily commanded in the past over No. 1 shipping. A very large proportion of the wheat now being used by local millers is no better than good average shipping. Business on export account is being greatly restricted at present by lack of vessels. The only ship on the disengaged list was taken at the close of last week for wheat and [or] barley at £1 13s to Cork for orders to United Kingdom, Havre or Antwerp. This is a profitable figure for ships and is relatively much better than $1.25 would be for wheat. This scarcity of deep-sea tonnage cannot long continue. Tramp steamers will be attracted here by such rates as are now current. Recent advices as to the crop in this country and Europe are more favorable for firmer prices than they were a week or two ago. Heavy and damaging rains were experienced in what is known as the wheat belt of the Northwest, tributary to Chicago. The crop in continental Europe, particularly in the eastern portion, bids fair to be still smaller than estimated a fortnight ago. Many farmers are holding on to their wheat for better values than now prevail, and all surface indications appear to warrant such a course.

California Milling	$1 07½@1 12½
Cal. No. 1 shipping, alongside	1 05 @1 07½
Oregon Valley	1 03¾@1 10
Walla Walla Blue Stem	1 05 @1 12½
Walla Walla Club	1 00 @1 07½
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.12½@1.14¼.

May, 1900, delivery, $1.17¾@1.18½.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.13¾@1.13½; May, 1900, 1.18⅛@1.18½.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s6¼d@6s7d	6s0½d@6s1d
Freight rates	26¼@27½s	31¼@33¾s
Local market	$1.20@1.22½	$1.06¼@1.08¾

†The prices above are for spot lots of standard No. 1 California in Liverpool and for good choice shipping in this city.

Flour.

Quotable rates for this product have developed no improvement since last review. More substantial advances in prices of wheat than have been recently effected will be necessary before any noteworthy movement upward in flour values will be warranted or apt to be experienced. Stocks are more than ample for current needs. While there is a fair outward movement, it is hardly up to the average.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Further clearances of this cereal have been made for Europe since last review, but the outward movement was not so brisk as during preceding week. A small lot of Chevalier was cleared for Liverpool. The total shipments for the season to date make a liberal showing, as compared with last year, but are not so heavy as two years ago. Nearly 30,000 tons have gone outward since July 1st, principally to Europe, as against less than 1,900 tons for corresponding period in previous season. Two years ago, however, the exports of this cereal for July and August aggregated 37,000 tons. Quotable values have not shown marked change during the week, but for desirable shipping grades prices were tolerably well sustained at previously quoted range. There was a very fair inquiry for shipment, and more than was obtainable might have possibly been placed at the prevailing rates. At higher figures, however, shippers claimed inability to operate. Trading on local account was of very moderate proportions, and was mostly in feed descriptions, prices for which averaged lower than previous week, especially for the common grades. The speculative market was quiet most of the week, but tendency of values was more favorable to the buying than to the selling interest. May delivery was dealt in to a moderate extent, and at no previous date the current season has this remote option received any special attention. May delivery No. 1 feed sold at 87½c.

Feed, No. 1 to choice	82½@ 85
Feed, fair to good	77½@ 81¼
Brewing, No. 1 to choice, new	90 @ 97½
Chevalier, No. 1 to choice	1 17½@1 22½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 80¾@83c.

December, 1899, delivery, 82¼@85c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 83½@83c; seller 1899, new, 81½c bid.

Oats.

There were no very heavy offerings of any description, and especially were choice to select qualities of feed oats in limited supply, with very good demand for this sort, partly on Government account. Values were fairly well sustained, and in some instances an advance on quotable rates was realized, especially for best qualities of white oats, which were scarcer than any other kind. Reds made the best display as to quality, and there were very fair supplies of Black oats. Surprise and Gray oats remain practically out of stock, but offerings of fair proportions are likely to be on market in the near future. Receipts of white oats are also expected to show material increase the coming month.

White Oats, fancy feed	1 27½@1 32½
White, good to choice	1 15 @1 25
White, poor to fair	1 05 @1 10
Gray, common to choice	1 10 @1 25
Milling	1 20 @1 30
Surprise, good to choice	1 35 @1 40
Black Russian	90 @1 05
Red	95 @1 10

Corn.

The general features of the market for this cereal continue on much the same lines as immediately prior to last report. Supplies of Eastern product, both Large Yellow and White, are of fair volume and are offering within range of unchanged quotations, the market being rather easy in tone. Stocks of Small Yellow show no increase and cannot until new crop domestic comes upon the market, which will not be for a month or two to come, unless in very small quantity and in too green condition to be much sought after.

Large White, good to choice	1 10 @1 12½
Large Yellow	1 07½@1 10
Small Yellow	1 40 @ —
Eastern Mixed	1 02½@1 05

Rye.

This cereal continues in request for export at 90c delivered at Port Costa, but there is no evidence of much being secured at the figure named. Trading on local account is light.

Good to choice, new	95 @1 02½

Buckwheat.

Market continues bare, but offerings of new are looked for soon. Values at present are wholly nominal.

Good to choice	2 50 @ —
Silverskin	— @ —

Beans.

The same quiet condition last noted is still being experienced in the bean market, not much inquiry being made for any variety, either on local account or for shipment. Stocks are far from being heavy, and are mainly Bayos, Pinks and Lady Washingtons or Large Whites. If undue selling pressure were exerted, less than current quotations would have to be accepted. On the other hand, were buyers to attempt to purchase freely they would find it necessary to pay full figures quoted, possibly a little more. New crop beans have been reported as received in small quantity from Sacramento river sections, but it will be a month or more before arrivals of new will be sufficiently liberal to warrant the attention of wholesale buyers, or to permit the filling of orders of noteworthy magnitude. A more than ordinary proportion of new crop is reported to be Bayos and Pinks.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 70 @1 80
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 25 @2 35
Bayos, good to choice	1 70 @1 85
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	4 15 @4 25
Horse Beans	—— @——
Garhanzos, large	2 75 @3 00
Garhanzos, small	1 60 @1 75

Recent advices by mail from New York give the following report of the bean market in that center, prices quoted being per 60-lb. bushel:

The market has again experienced a very dull week. Dry weather and unfavorable crop reports from growing sections have caused holders to be confident, especially in view of the light offerings, and prices have been well sustained. In fact, tone has been stronger, if anything, and strictly choice Marrow are not easily obtained under $1.47½, with some unwilling to accept that figure at the close. Medium have ranged from $1.30@1.32½, generally latter figure, and Pea have sold largely at $1.30, with barely enough business at $1.32½ to maintain it as a quotation. Export demand for Red Kidney has been light, but choice held generally at $1.67½. White Kidney have been a little more plentiful and have eased off 5c more. Yellow Eye dull and little doing in Black Turtle Soup. Lima steady but very quiet at $2.77½@2.80. Green peas have continued weak but about the same in price.

Dried Peas.

There are none offering in the wholesale market. New crop peas are expected from Humboldt section soon. Early offerings are apt to meet with a good market.

Green Peas, California	2 25 @2 85
Niles Peas	1 65 @1 75

Wool.

There are no heavy quantities arriving at present, and trading is of a light order. Much of the wool now being received is fall clip from San Joaquin valley and the south. While business at present in these wools is necessarily limited, owing to the light offerings, there is enough doing to enable giving quotations. The purchasing is in the interest of local scourers, and it is claimed that the prices paid are higher than are warranted by present values and conditions in the East. While this may be the case, the same cry has been made for years, and it is somewhat remarkable, in view of this condition of affairs, that there is ever an outlet East for our wools, but our surplus annually finds its way to Eastern manufacturing centers, and in some manner or other is eventually disposed of. Quotations for California spring are withdrawn, as the spring clip of this State has been wholly placed.

SPRING.	
Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17
FALL.	
Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

There are few hops of any sort now on market, and especially are desirable qualities of last season's product in light supply. Arrivals of new are now due, as picking and curing have been in full blast for nearly a fortnight in some of the early sections and are now in progress in most, if not all, the yards in the State. There should be active trading in the next thirty or sixty days, and certainly will be if wholesale offerings are all that is necessary to bring about this result. It remains to be seen, however, if the foreign demand will come up to expectations and if buyers and growers will be generally able to come to terms. The impression prevails that there will be a very fair demand within range of the quotations herewith appended. Values for the time being are, of course, largely nominal.

Good to choice, 1898 crop	12 @14

The following review of the hop market comes through by mail of recent date from New York:

The local market continues quiet and without new features of interest. Remaining stocks of 1898 hops are light both here and in the country, and mostly consist of lower grades, and that fact causes top quotations to appear extreme, though there is nothing to warrant actual change. We hear of a lot sold in the interior of this State at 11½c, and some at 11c Picking in this State is now only about three weeks distant, and advices from the yards are being watched with interest. Lice are reported in some sections, but not sufficient to cause special uneasiness unless weather should prove favorable to rapid increase. It is now regarded pretty certain that the crop will be lighter than last year. From the Pacific coast lice are reported in Washington and that State has reduced estimates of growing crop and reports now predict a lighter quantity than thought two weeks ago. Advices from California and Oregon are regarded as favorable. English and German advices continue good.

Hay and Straw.

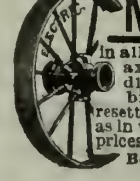
The market for hay has continued in depressed condition, and prospects for marked improvement in the near future are certainly not encouraging at the moment. Hay is now selling for less than cost of production, and it would seem as though dealers would take hold in more active fashion, as the selling of hay at these losing figures for the producer cannot always continue, but buyers are not satisfied that prices have yet touched bedrock. Lack of storage facilities is the cause of so much hay being crowded to market at present. Those who can hold are not justified in selling under the conditions now prevailing.

Wheat	7 00@ 9 00
Wheat and Oat	7 00@ 8 50
Oat	6 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	——@——
Compressed	8 00@10 00
Straw, ₱ bale	25@ 40

Millstuffs.

Bran and Middlings were in more liberal receipt than for several weeks preceding, arrivals being mainly from Washington, and market was easier. Values for Rolled Barley and Milled Corn were without appreciable change.

Bran, ₱ ton	15 50@16 50
Middlings	18 00@20 00


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Shorts, Oregon	16 00@17 00
Barley, Rolled	18 50@19 00
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

Mustard Seed is offering in moderate quantity, mostly by sample to arrive. Quotations are based mainly on the views of buyers, with growers contending as a rule for firmer figures. Flaxseed is in very light spot supply and market affords no basis for quotations. In other seeds there is nothing of consequence doing.

	Per ctl.
Mustard, Trieste	3 25@——
Mustard, Yellow	3 25@——
Flax	——@——
	Per lb.
Canary	3½@4
Rape	3 @4
Hemp	4¼@4½
Alfalfa, Utah	—@—

Bags and Bagging.

Dealers continue to quote Calcutta Grain Bags at 7½c, although the bag ship Macduff, with 4,000,000 aboard, and concerning which there was so much uneasiness, is now known to be afloat and near port. Some are so unkind as to intimate that those most interested in the ship knew all the time that she was safe and that her captain was simply obeying orders in prolonging the voyage.

Calcutta Grain Bags	7½@—
San Francisco Grain bags, 22x36, spot	7¾@—
State Prison bags, per 100	—@—
Wool sacks, 4 lb	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5½@ 6

Hides, Pelts and Tallow.

There are no changes to record, and none of consequence likely to be experienced in the near future. There is no lack of demand for either Hides, Pelts or Tallow at the current rates.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	10@10½	9@ 9½
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

Market is firm at unchanged quotations, with demand fair and offerings light. The last Panama steamer took 312 cases Extracted for New York. The ship Centesima sailed with 349 cases for Liverpool.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

Supplies of this commodity are light, both here and at interior points. Prices are being well sustained at last quoted range. A sailing vessel took 4000 lbs. for Liverpool.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Market for Beef showed decided steadiness, although inquiry was not brisk. With anything like an active demand, prices would doubtless have ruled firmer. Mutton was in fair request, and market was moderately firm at the prevailing quotations. Veal and Lamb continued in light receipt and sold to advantage. Hogs did not arrive freely, and for cutting up for immediate use brought about the same stiff figures as last quoted.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 7@—c; wethers	7 @ 7¼
Hogs, hard grain fed, medium	5¾@ 6
Hogs, small, fat	5¾@ 6
Hogs, large hard	5¾@ 5¾
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	9 @11
Veal, large, ₱ lb	8 @ 9
Lamb, spring, ₱ lb	8 @ 8½

Poultry.

Owing to some improvement in the demand, and arrivals of Eastern not quite so heavy as for several weeks preceding, the market showed a little better tone, especially for desirable young stock, which commanded a mod-

erate advance, some of superior size and quality going above quotable rates. Prices for old poultry were not materially higher, although sales were more easily effected.

Turkeys, young, ℔ lb	15	@	17
Turkeys, live hens, ℔ lb	11	@	13
Turkeys, live gobblers	11	@	13
Hens, Cal., ℔ doz	4 00	@5	50
Roosters, old	4 00	@4	25
Roosters, young, (full-grown)	4 50	@6	00
Fryers	4 00	@4	50
Broilers, large	3 00	@3	50
Broilers, small	2 50	@3	00
Ducks, ℔ doz	3 00	@5	00
Geese, ℔ pair	1 25	@1	50
Goslings, ℔ pair	1 50	@2	00
Pigeons, Old, ℔ doz	1 50	@1	75
Pigeons, Young	1 50	@1	75

Butter.

Prices for best qualities of fresh have been again advanced, but the market cannot be termed particularly firm at the higher figures. Some of the jobbers and a number of retailers are anxious to divert custom to their own packed butter, and the advancing values for fresh is likely to bring this about. There are no large quantities of fine fresh butter on market, but there is likely to be more than enough at such comparatively stiff prices as are now being asked.

Creamery extras, ℔ lb	25	@	—
Creamery firsts	24	@	—
Creamery seconds	23	@	—
Dairy select	22	@	23
Dairy seconds	18	@	20
Dairy, soft and weedy	—	@	—
Mixed store	14	@	15
Creamery in tubs	18	@	20
Pickled Roll	18	@	20
Firkin, Cal., choice to select	18	@	20
Firkin, common to fair	15	@	16

Cheese.

Market is quite firm, with supplies of only moderate volume and demand very fair. Especially is strictly select mild-flavored new commanding good figures, favorite makes going to special custom at an advance on quotations. Imported is not in heavy stock and is being steadily held.

California fancy flat, new	11	@	—
California, good to choice	10	@	10½
California, fair to good	9	@	9½
California Cheddar	—	@	—
California, "Young Americas"	10	@	12

Eggs.

For choice fresh stock, direct from hennery or ranch, the market is higher and moderately firm at the advance, arrivals being light and will so continue until after the midwinter holidays. For best qualities prices are likely to show further improvement soon. For ordinary grades, however, the market is not firm. There are heavy stocks of cold storage eggs to draw upon, both local product and Eastern.

California, select, large white and fresh	26	@	—
California, select, irregular color & size	23	@	25
California, good to choice store	18	@	22
Eastern, as to section and grading	16	@	20
Eastern, cold storage	—	@	—

Vegetables.

Changes in quotations were not numerous or marked. Onion market was firm and higher, however, owing to renewed demand for Australia. Values for Tomatoes recovered somewhat from the depressed levels recently prevailing, partly due to improved quality of recent arrivals. Most other vegetables in season went at low figures.

Asparagus, fancy, ℔ box	—	@	—
Asparagus, No. 1, ℔ box	—	@	—
Asparagus, common to fair, ℔ box	—	@	—
Beans, Wax, ℔ lb	1½	@	2½
Beans, String, ℔ lb	1	@	2
Beans, Lima, ℔ lb	2	@	2½
Cabbage, choice garden, ℔ 100	50	@	60
Cauliflower, ℔ doz	50	@	—
Corn, Alameda, ℔ crate	75	@ 1	25
Corn, Green, ℔ sack	25	@	75
Corn, Berkeley, ℔ crate	40	@	75
Cucumbers, Alameda, ℔ large box	20	@	35
Cucumbers, ℔ small box	—	@	—
Egg Plant, ℔ box	25	@	50
Garlic, new, ℔ lb	2	@	3
Mushrooms, Buttons, ℔ lb	—	@	—
Mushrooms, wild, ℔ box	—	@	—
Okra, Green, ℔ box	40	@	60
Onions, Yellow, good to choice, cental	1 00	@ 1	15
Onions, New Red, ℔ cental	—	@	—
Peas, Sweet, Garden, ℔ lb	3	@	4
Peas, common, ℔ lb	1½	@	2½
Peppers, Green Chile, ℔ box	25	@	40
Peppers, Bell, ℔ large box	35	@	50
Rhubarb, ℔ box	—	@	—
Squash, Bay, ℔ large box	20	@	30
Squash, Marrowfat, ℔ ton	—	@	—
Squash, Summer, ℔ small box	—	@	—
Tomatoes, ℔ large box	40	@	75
Tomatoes, ℔ small box	20	@	35

Potatoes.

The market has been quiet most of the week, with the demand slow, both on local account and for shipment, while the quantity coming forward is showing increase. Prices were at a lower range than last quoted. The weakness was more pronounced on common qualities, however, than on choice to select. Sweets are arriving more freely and are lower.

Burbanks, River, ℔ cental	75	@ 1	00
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	—	@	—
Early Rose	90	@ 1	05
Garnet Chile	90	@ 1	00
Burbanks, Salinas, ℔ cental	1 25	@ 1	50
Sweet River, ℔ cental	1 75	@2	25
Sweet Merced	—	@	—

The Fruit Market.

Fresh Fruits.

While the market for fresh fruit has been by no means in satisfactory shape for the selling and producing interest, the general condition has been an improvement on that of previous week. Especially was this the case as regards Peaches, Pears and Plums. Of these kinds there was no such glut as lately experienced, nor were canners able to secure fruit at prices which would not pay costs of picking and transportation. A week ago canners purchased good Cling Peaches at $10 per ton, and very fine Plums, such as Coe's Golden Drop, at same figure. In this connection it is worthy of note that while canners made the plea that they were unable to use the fruit offering on account of having no tins, when the market went to pieces from lack of wholesale competition, and fruit was obtainable for practically nothing, the canners had the tins to utilize the fruit obtainable at figures ruinously low for the producer. This week canners found it necessary to advance their bids $5@10 per ton, and then were not heavily burdened with offerings. Choice Freestone Peaches were wanted at $25 per ton, and choice Bartlett Pears were sought after at $40 per ton. Poor fruit continued to receive very little attention at previous low range of prices, but stocks of this sort showed decided reduction. Apple market was firm for choice to select. Fancy Gravensteln in four tiers were quotable at $1 per box. Common Apples were as cheap and dull as previously noted. Grapes were in fair receipt, with no very active demand, and only choice qualities met with an encouraging market. In the market for Berries of the various kinds now in season there were few changes in quotable rates, but there was in the main an easy tone. Watermelons were plentiful and cheap. Cataloupes and Nutmeg Melons went at very low figures.

Apricots, good to choice Royal, ℔ ton	—	@	—
Apricots, Royal, ℔ box	—	@	—
Apricots, Pringle, ℔ box	—	@	—
Apples, fancy, ℔ 50-lb. box	—	@	—
Apples, fancy, 4-tier box	1 00	@	—
Apples, good to choice, ℔ 50-lb. box	75	@	90
Apples, Green, common to fair, ℔ 50-lb. box	25	@	50
Blackberries, ℔ chest	3 00	@ 4	50
Cantaloupes, ℔ crate	30	@	75
Cantaloupes, Nutmeg, ℔ crate	20	@	35
Cherries, Black, ℔ box	—	@	—
Cherries, Red, ℔ box	—	@	—
Cherries, Royal Anne, ℔ box	—	@	—
Cherries, White, ℔ box	—	@	—
Crabapples, ℔ small box	35	@	60
Currants, ℔ chest	—	@	—
Figs, Black, 2-tier box	50	@	90
Figs, Black, ℔ drawer	35	@	50
Gooseberries, ℔ lb	—	@	—
Gooseberries, ℔ 10-lb box	—	@	—
Grapes, Black, ℔ crate	40	@	65
Grapes, Fontainebleau, ℔ crate	—	@	—
Grapes, Muscat, ℔ crate	35	@	65
Grapes, Tokay, ℔ box, 35@60c; ℔ crate	40	@	70
Grapes, Seedless, ℔ box, 50@65; ℔ crate	60	@	75
Grapes, Isabella, @ crate	75	@ 1	50
Logan Berries, ℔ chest	—	@	—
Nectarines, Red, ℔ box	40	@	65
Nectarines, White, ℔ box	30	@	50
Peaches, fancy wrapped, ℔ box	40	@	60
Peaches, ℔ box	25	@	50
Pears, Bartlett, No. 1 to choice, ℔ ton	30 00	@40	00
Peaches, Clingstone, ℔ ton	20 00	@35	00
Peaches, Freestone, ℔ ton	15 00	@25	00
Pears, Bartlett, ℔ 40-lb. box, wrapped	75	@ 1	25
Pears, common, ℔ basket	25	@	50
Pears, ordinary, ℔ box	25	@	60
Plums, large, ℔ ton	15 00	@20	00
Plums, large, ℔ crate	40	@	65
Plums, ℔ box	25	@	50
Plums, Cherry, ℔ drawer	—	@	—
Raspberries, ℔ crate	—	@	—
Raspberries, ℔ chest	3 00	@ 5	00
Strawberries, Longworth, ℔ chest	5 00	@ 7	00
Strawberries, Large, ℔ chest	3 00	@ 4	00
Watermelons, ℔ 100	4 00	@15	00
Whortleberries, ℔ lb	5	@	6

Dried Fruits.

There is considerable doing in cured and evaporated fruits, both on local account and in the filling of shipping orders, and trade would be more active were certain kinds, such as Apricots, fancy Peaches, choice to fancy Pears and select Pitted Plums, readily obtainable in wholesale quantity. Apricot market is very strong, with few now remaining in first hands, and these generally held above quotable rates. Fancy Moorparks are hardly obtainable, and would command decidedly stiff prices, possibly 17c or more in a small way. Peaches are without quotable change, but the tone of the market is weak for ordinary qualities, which may go still lower later on, but the outlook for choice to fancy unpeeled, and for peeled of desirable quality, is for a good market, such being in too light stock to be quotable at present. Strictly fancy unpeeled are quotable nominally at 8c, and No. 1 to select peeled at 10@12c. Nectarines are scarce and in request at 7@8c for white, about ½c less for red. Apple market is steady at previous quotations, with spot offerings light and not much pressure to realize on futures. Pitted Plums in prime condition are not lacking for attention, either Black or Yellow, and 7@7½c is being paid for choice of latter sort. The curing of Prunes is now under full headway. The crop is of fair proportions, and is running more to large sizes than last season. Santa Claras are being offered on basis of 3c for the four sizes, being ¼c less than recently asked, and some sales have been booked at the new figures. Fresh Prunes are quotable at $15@25 per ton, as to location and condition. There are few of last year's Prunes now unplaced.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10	@12	
Apricots, Royal, fancy	12	@13	
Apricots, Moorpark	13	@15	
Apples, in 50-lb. boxes, rings, pressed, fancy	—	@—	
Apples, 50-lb. boxes, rings, pressed, fair to good	7	@ 7½	
Figs, White, fancy pressed	8	@ 8½	
Peaches, unpeeled, good to choice	5½	@ 7	
Peaches, unpeeled, fancy	—	@—	
Peaches, peeled, in boxes	—	@—	
Pears, unpeeled Bartletts, halved, fancy	10	@11	
Pears, halved, unpeeled Bartletts	8	@ 9	
Pears, quartered, unpeeled Bartletts	7½	@ 8½	
Plums, pitted	5	@ 6	
Prunes, in sacks, 40—50's	6½	@ 7	
50—60's	4½	@ 4¾	
60—70's	3¼	@ 3¾	
70—80's	2¾	@ 3	
80—90's	2½	@ 2¾	
90—100's	2¼	@ 2½	
110—130's	1¾	@ 2	

Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	3	@—	
4 sizes San Joaquin and Northern	2¾	@—	
Prunes, Silver	4	@ 7	

COMMON SUN-DRIED.

Apples, sliced	4	@ 5	
Apples, quartered	4	@ 5	
Figs, Black	2	@ 3	
Figs, White	—	@—	
Peaches, unpeeled	—	@—	

Late mail advices from New York report the dried fruit market in the East in following condition:

The market for evaporated apples has shown no material change this week. There is a steady jobbing demand for old at about previous range of prices. A small lot of new appeared from this State first of the week and sold at 7¾c; quality barely prime. This is unusually early for new State fruit. The appearance of the fruit would indicate that this year's make would be of better size and quality than last year. There has been less interest in futures and price has fallen back to 7⅛@7¼c for prime October and November delivery. The general impression seems to be now that there will be considerably more fruit evaporated than previously estimated, particularly as driers were so successful last season that many are planning to increase their output. No new sun-dried apples have appeared, but they are inquired for and would doubtless bring 4½@6c, as to quality. Chops neglected, but choice cores and skins firmer. The few new raspberries and huckleberries received are held steady, but there is not much demand. New blackberries have weakened to 4@4½c, latter figure extreme. New cherries have had some sales at 9½@10c, latter figure rather full. Old small fruits pretty well cleaned up. California new apricots in small supply and selling at about 11½@12c for boxes and 11@11¼c for bags. No new California peaches arriving. California prunes dragging.

Apricots, Cal. Moorpark, 1898, per lb	13	@15	
Apricots, Cal. Royal, 1898, per lb	12	@13	
Peaches, Cal., 1898, unpeeled, per lb	9	@12	
Prunes, Cal., 1898, per lb	3	@ 8	

Raisins.

The market displays good condition, spot stocks showing steady reduction, and bid fair to be wholly exhausted before new crop comes upon the market. Prices for last year's product remain unchanged. Market for new will be higher. Loose Muscatel of 1899 curing are expected to command an advance of fully ½c per lb. on rates now current. The coming yield may slightly exceed 3000 carloads.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—	@—	
Dehesa Clusters, per box	—	@—	
Fancy Clusters, per box	—	@—	
London layers, 3-crown, 20-lb box	—	@1	20
London layers, 2-crown, 20-lb box	—	@1	10
Valencia layers, ℔ 20-lb box	80	@1	00
(Usual advance for fractions.)			
Loose Muscatel, 4-crown, ℔ lb	5¼	@5¾	
Loose Muscatel, 3-crown	4¼	@4¾	
Loose Muscatel, 2-crown	—	@ —	
Loose Muscatel, ungraded	—	@ —	
Sultanas, unbleached	—	@ —	
Seedless Muscatel	—	@ —	
Thompson's Seedless, unbleached	—	@6	
(Above prices for loose raisins are for 50-lb boxes.)			
Dried Grapes	2	@2¾	

Citrus Fruits.

The Lemon is the only domestic fruit now offering in the citrus line, and of this kind there is more than an ample supply. Former range of values remains in force, but demand is almost wholly for choice to select, common qualities being difficult to move.

Lemons—Cal., select, ℔ box	2 50	@ 3	00
Cal., good to choice	1 50	@ 2	00
Cal., common to good	75	@ 1	50
Limes—Mexican, ℔ box	4 00	@ 4	50
Cal., small box	75	@ 1	00

Nuts.

Market continues bare of spot stocks of Almonds and Walnuts, and there is nothing upon which to base quotations. Prospects are for a firm market on Almonds, owing to European shortage. Peanuts are in good request at full current rates.

California Almonds, paper shell, ℔ lb	—	@—	
California Almonds, soft shell	—	@—	
California Almonds, hard shell	7	@ 9	
California Almonds, shelled	—	@—	
Walnuts White, paper shell	—	@—	
Walnuts White, soft shell	—	@—	
Walnuts White, Cal., standard	9	@10	
Chestnuts, Cal. Italian	—	@—	
Peanuts, Cal., fair to prime	5½	@ 6	
Peanuts, Eastern hand-picked	6	@ 7	
Pine Nuts	5	@ 8	

Wine.

Market continues quiet, and is likely to so remain during the balance of the season. There is very little offering at present from first hands, but wholesalers and jobbers are fairly stocked for the time being. Quotations on new Claret are 15@20c per gallon, as to quantity, quality and other conditions. The last Panama steamer took 79,402 gallons and 154 cases, mostly for New York. Shipments by sea in July from this port were 169,548 gallons and 661 cases, with a total valuation of $55,646. In July, 1898, the shipments by sea were 852,898 gallons and 664 cases, representing a total value of $332,269.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

California Dried Fruit at New York.

NEW YORK, Aug. 23.—California dried fruits: Market quiet: unchanged. Evaporated apples, common, 6½@7¼c; prime wire tray, 8¼@8½c; choice, 8¾@9c; fancy, 9¼@9½c.
Prunes, 3¼@8c.
Apricots, Royal, 14@—c; Moorpark, 15@16c.
Peaches unpeeled, 11@12c; peeled, —@—c

The McCormick
is
"The Best in the World."

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	118,300	789,806	629,795
Wheat, ctls	42,502	652,509	430,528
Barley, ctls	260,446	1,077,497	163,436
Oats, ctls	17,088	95,109	50,910
Corn ctls	1,285	13,815	20,445
Rye, ctls	60	27,799	3,995
Beans, sks	1,476	30,593	25,421
Potatoes, sks	23,648	120,647	145,654
Onions, sks	5,031	30,903	34,822
Hay, tons	5,322	26,772	25,709
Wool, bales	1,025	12,324	9,314
Hops, bales	.....	692	418

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	56,920	456,703	435,620
Wheat, ctls	53,339	475,019	255,413
Barley, ctls	348,531	505,569	30,019
Oats, ctls	.....	4,673	3,432
Corn, ctls	.....	2,206	2,712
Beans, sks	.....	3,079	7,781
Hay, bales	.....	11,413	5,787
Wool, lbs	.....	28,006	488,690
Hops, lbs	1,638	13,211	81,881
Honey, cases	12	332	252
Potatoes, pkgs	10	6,488	7,230

USEFUL TO KNOW.
Drugs, Chemicals, Strychnine, Phosphorous, Caustic Soda, Carbon Bisulphide, Paris Green and Lows Bait Oil at bottom prices
J. R. GATES & CO., Druggists,
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WOOL, GRAIN, FLOUR
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Members of the San Francisco Produce Exchange.
Personal attention given to sales and liberal advances made on consignments at low rates of interest.

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The largest stock in the State of Citrus Fruit Trees. Trees from 25c up.
Tropical Fruit Plants of every sort. Cataloguo Free.
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The Weekly American Bee Journal
Tells all about it.
Sample Copy Mailed Free
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118 Michigan St., CHICAGO, ILL.

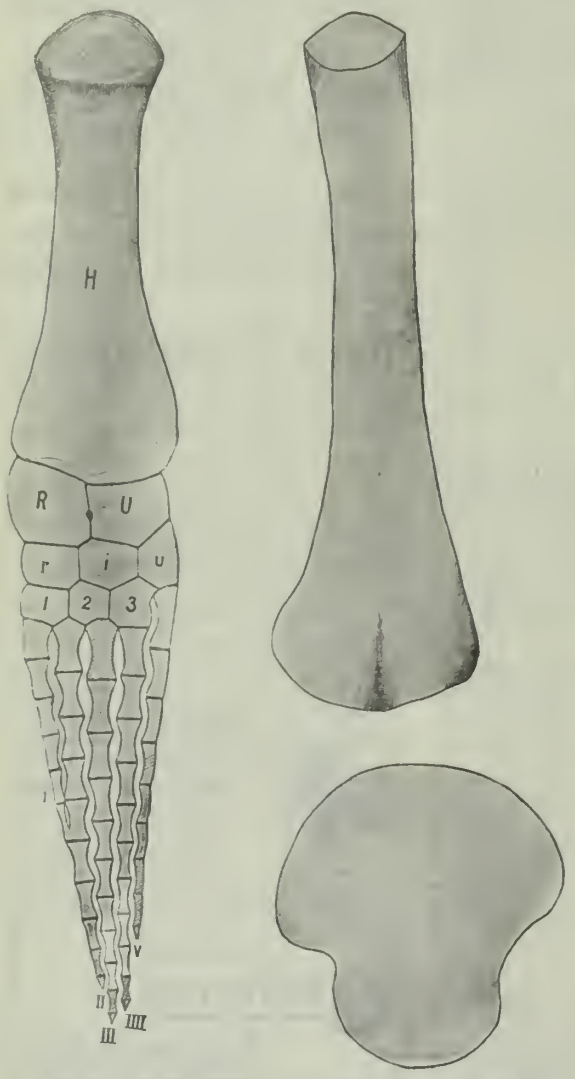
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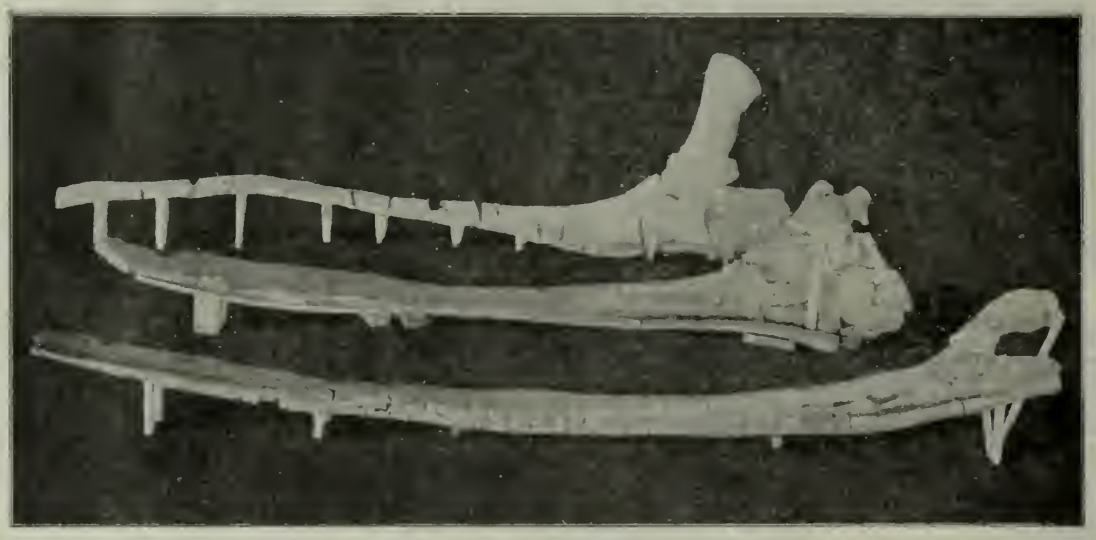
AMERICAN AND FOREIGN PATENTS
CAVEATS, TRADE MARKS.
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The Gigantic Fossils of Wyoming.

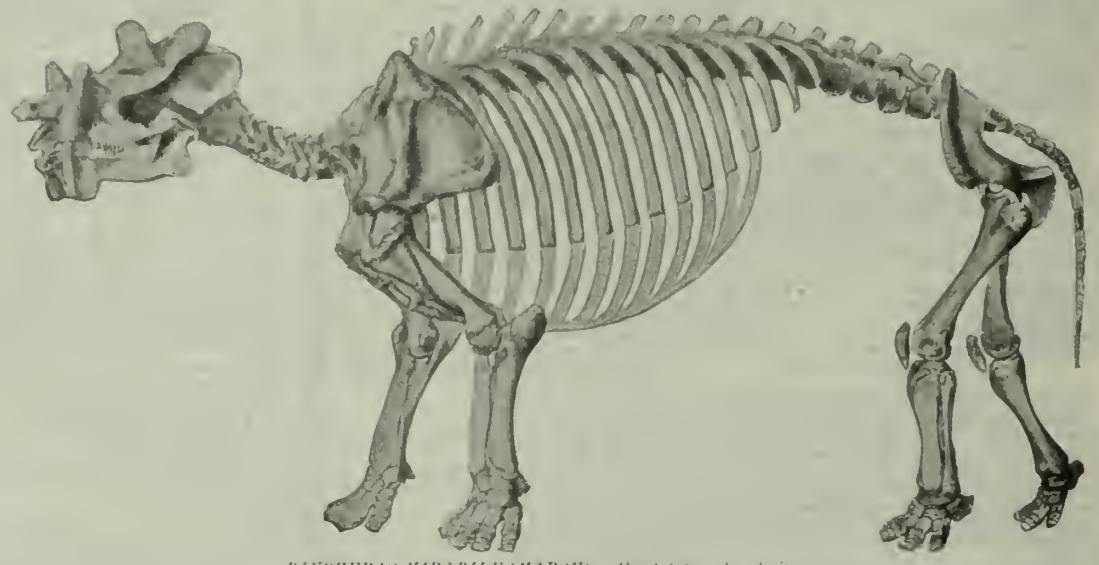
The extinct animals being found under the plains of Wyoming do not cease to be a wonder. Other lands have produced huge mammals and strange reptiles, but none ever previously discovered can equal or approach those of the Cretaceous and Tertiary beds of southeastern and central Wyoming. Under the auspices of the Union Pacific Railroad a large party of men from numerous colleges and universities, headed by Prof. Wilbur C. Knight of the Wyoming University, is now delving into the sandstone and clays for the fossil remains of these immense animals long since extinct. Herewith are illustrated two of these monsters with the individual bones of several others. At one time Wyoming had numerous fresh water lakes and a semi-tropical climate, at which time these animals appear to have dwelt in the swamps and lakes in great numbers. Dying, they sank in the mud flats, and accumulating deposits covered the remains, the bony parts of which were turned to stone. These are called fossils. Birds, fish, trees, leaves and other forms of organic life have been preserved in like manner. The tracks made by animals in the soft mud are also often found and ripple marks of waves and even the imprint of rain drops can sometimes be seen with wonderful distinctness.



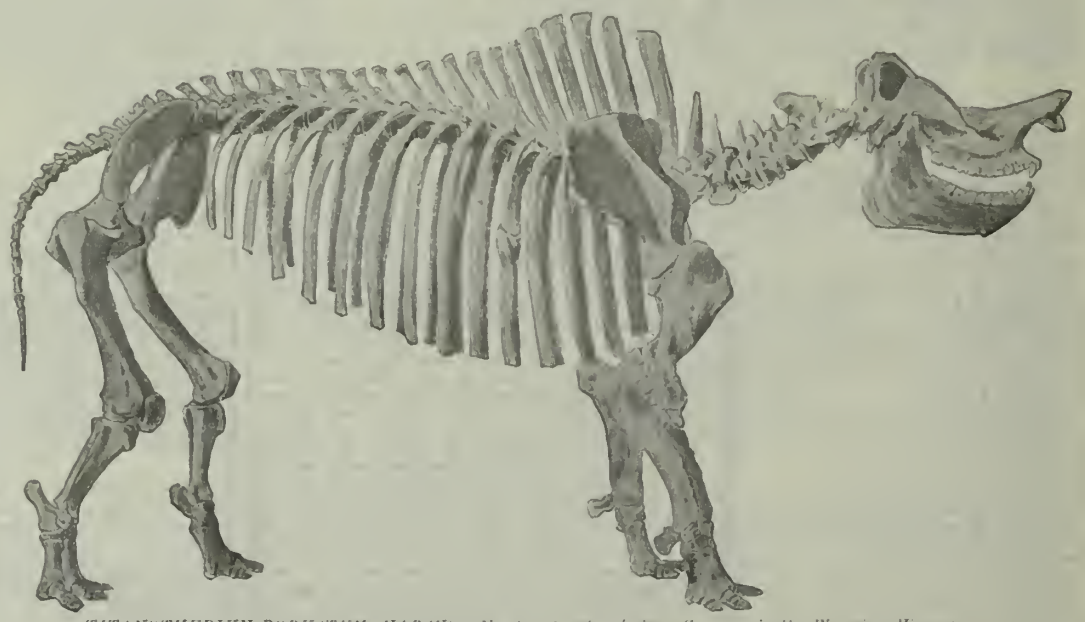
MEGALNEUSAURUS REX (KNIGHT).—Front limb nearly 8 feet long.



THREE RIBS FROM A LARGE DINOSAUR.—Longest rib over 6 feet.



DINOCERAS MIRABILE (MARSH).—About 1-20 natural size.



TITANOTHERIUM ROBUSTUM (MARSH).—About 1-27 natural size. Common in the Wyoming Miocene.



HEAD OF TRICERATOPS PRORSUS (MARSH).—About 1-12 natural size.



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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING AUGUST 8, 1899.

630,437.—FLUSHING TANK—C. J. Ball, Los Angeles, Cal.
630,438.—BUREAU—J. Barker, S. F.
630,649.—BICYCLE GRIP—F. A. Briggs, New Whatcom, Wash.
630,591.—SOLDERING MACHINE—W. S. Case, San Jose, Cal.
630,448.—ELECTRO-MAGNETIC ENGINE—M. S. Conly, Los Angeles, Cal.
630,488.—OILER—W. Cooper, Seattle, Wash.
630,495.—AIR COMPRESSOR—R. L. Dunn, S. F.
630,453.—CARRIER AND SERVER—E. W. Fairbanks, Los Angeles, Cal.
630,535.—BEET PULLER—I. Goble, Chino, Cal.
630,504.—MAIL POUCH FASTENER—W. E. Griffin, Reno, Nev.
630,830.—MECHANICAL MOVEMENT—S C. Houghton, S. F.
630,510.—ORE FURNACE—J. F. Keiper, Everett, Wash
630,511.—ROCK CRUSHER—J. H. Kinkead, Virginia, Nev.
630,512.—GEAR MECHANISM—A. Meyers, Spokane, Wash
630,389.—CORSET FASTENER—Sarah R. Mills, S. F.
630,734.—BOWL HOLDER—Helena L. Oothout, Fresno, Cal.
31,379.—DESIGN—W. F. Clark, S. F.
31,343.—DESIGN—H. S. Winn, S. F.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

ROCK CRUSHER AND GRINDER.—Jas. H. Kinkead, Virginia City, Nev. No. 630,511. Dated Aug. 8, 1899. This invention relates to improvements for crushing and grinding rock. It consists of a grinding pan having a convex bottom with a flat circular central portion and inclined periphery extending upwardly and outwardly at approximately right angles with the conical portion of the bottom, an independent circular central die having a conical upper surface and outwardly and downwardly diverging periphery, a concaved bottom fitting the flat central surface of the pan bottom and extending a short distance down the inclined portion, a die having a central opening fitting over the periphery of the central die and locking it in place, said die extending to the inner periphery of the pan and having radial grooves or channels made at intervals around the periphery. In connection with this is employed independent removable segments resting upon the periphery of the die and forming a lining for the interior periphery of the pan; one or more split rings are fitted between the shoes and dies around this outer periphery and these take the wear as well as providing double grinding surfaces. Whenever these rings become worn too thin others may be inserted and the wear practically taken up.

MAIL POUCH FASTENER.—W. E. Griffin, Reno, Nev. No. 630,504. Dated Aug. 8, 1899. The object of this invention is to provide a reliable closure and fastening for the mouths of mail pouches. It consists of flexible hinged metal plates secured transversely across one side, and other plates across the flap which folds over the opposite side of the pouch, so that when the pouch has been closed and the flap folded over they form an absolutely rigid strip extending across both sides and the top of the pouch.

AN ACRE OF CORN

and its possibilities under the Silage system—being the theme of

"A BOOK ON SILAGE"
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TREE WASH, OLIVE DIP.

"Greenbank" Powdered Caustic Soda and Pure Potash.

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Calendar of the World's Wheat Harvest.

The Agricultural Department's *Crop Reporter*, a publication issued for the benefit and information of the crop correspondents of the Division of Statistics, and as a convenient means of communication between them and the Statistician, gives the following data regarding the times at which the wheat harvests of the world are gathered:

January — Australia, New Zealand, Chili, Argentina.

February and March—Upper Egypt, India.

April—Lower Egypt, India, Syria, Cyprus, Persia, Asia Minor, Mexico, Cuba.

May—Texas, Algeria, Central Asia, China, Japan, Morocco.

June — California, Oregon, Mississippi, Alabama, Georgia, North Carolina, South Carolina, Tennessee, Virginia, Kentucky, Kansas, Arkansas, Utah, Colorado, Missouri, Turkey, Greece, Italy, Spain, Portugal, south of France.

July—New England, New York, Indiana, Pennsylvania, Ohio, Michigan, Illinois, Iowa, Wisconsin, southern Minnesota, Nebraska, upper Canada, Roumania, Bulgaria, Austria, Hungary, southern Russia, Germany, Switzerland, south of England.

August—Central and northern Minnesota, Dakotas, Manitoba, lower Canada, Belgium, Holland, Great Britain, Denmark, Poland, central Russia.

September and October—Scotland, Norway, northern Russia.

November—Peru, South Africa.

December — Burmah, New South Wales.

The English Hop Crop.

M. H. Durst, formerly of Wheatland, Cal., but now a resident of London, England, writes as follows to the *Kentish Observer* of Aug. 9th:

"The hop crop has arrived at a stage when we may reasonably make a calculation of the probable result. Our reports for several weeks past will have prepared our readers for the expectation of a large crop; and now that it is in sight, we feel perfectly justified in predicting a larger production in proportion to the acreage than there has been since 1895. The way in which the bine has developed since midsummer day has been truly wonderful, and now there are either hops or burr on the lateral branches from the top of the poles and strings to the bottom. It is rarely that the bine has been so fruitful, and never have we known it to be so sound and healthy. There is an entire absence of anything that can be described as even approaching aphis blight. In fact, there has been practically nothing to wash for at any time, although a few growers have given their bine a spraying. It is years since so little washing has been done, because it has been unnecessary. Seldom, too, has there been such a slight attack of mould, with the result that very little sulphur has been applied to the bine. Altogether, the season has been a record one; and unless something quite unforeseen should happen, we think the crop will be a record one too, both in point of bulk and quality."

That Cure for Boils.

TO THE EDITOR:—Will you please change one point in the publication of a receipt for boils on people, in the PACIFIC RURAL PRESS of Aug. 12, 1899. It should read a teaspoonful three times a day, after meals, in place of a tablespoonful. L. N. GREGORY.

Hanford, Cal.

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Has a National reputation for good work.
Its Departments of Bookkeeping and Business Practice, Shorthand and Typing, Penmanship, Modern Languages, English Branches, Telegraphy, Civil, Mining and Electrical Engineering, Surveying, Assaying, etc., are practical in every detail, as is attested by the 16,000 graduates who are now successfully applying their knowledge.
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To Apple Packers!



The Tangent Fruit Brushers,

Pat. March 8, 1898, and April 11, 1899.

These machines will put a high polish on apples and greatly improve the appearance of the fruit, without any injury, and at a very slight expense.

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THERE IS NO KIND OF PAIN OR ACHE, INTERNAL OR EXTERNAL, THAT PAIN-KILLER WILL NOT RELIEVE.

LOOK OUT FOR IMITATIONS AND SUBSTITUTES. THE GENUINE BOTTLE BEARS THE NAME,

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Eureka Harness Oil is the best preservative of new leather and the best renovator of old leather. It oils, softens, blackens and protects. Use

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on your best harness, your old harness, and your carriage top, and they will not only look better but wear longer. Sold everywhere in cans—all sizes from half pints to five gallons.

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but there is no money in having a mole in your garden or on your lawn. Don't have them. Catch them with the

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Every trap has our guarantee to catch.

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This Lye commends itself to consumers for several reasons: The convenient size of the cans, 1 and 4 pounds; the Lye being finely granulated dissolves readily, thus enabling the operator to increase the strength of the solution at will.

RED SEAL LYE, guaranteed 98 per cent pure, is much stronger than the ordinary brands offered for sale, requiring fully one-third less to produce a given result.

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Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.

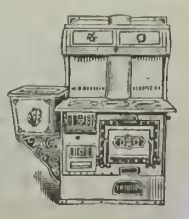
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Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared for coating all sizes of Pipes with Asphaltum.

$50.00 RANGE FOR $25.00

TO INTRODUCE OUR

TRIUMPH STEEL RANGE into every section of the United States, we will for a short time deliver at your depot free of charge our highest grade Steel range for $25.00. The regular retail price is $50.00. It has six 8-inch lids. Top cooking surface is 30x34 inches. Oven 12 inches high, 17 inches wide and 21¼ inches deep, and 15-gallon reservoir. Weight 400 lbs. Burns wood or coal. Write for Free Descriptive Pamphlet. Best Range made. WM. G. WILLARD, Manufacturer, 619 N. Fourth St., St. Louis, Mo. Will ship C. O. D. with privilege of examination.



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—when your horse is fast seconds count on a record.

A little stiffness or soreness in leg or body may lose seconds and hence lose a record. Chills, congestion and inflammation are the enemies of speed.



Tuttle's Elixir

used in dilute form has no superior as a leg and body wash. Apply to the legs and bandage lightly. Apply to the body and blanket. Removes stiffness and soreness, prevents colds, congestion, and produces flexibility and firmness of muscles and tendons.

Used and endorsed by the Adams Express Co.

For sale at all druggists. Sample bottle mailed for 6c to pay postage.

Veterinary Experience—full of valuable information—100 pages, FREE.

Dr. S. A. Tuttle, 33 Beverly St. Boston, Mass.

BEWARE of all so-called Elixirs, none genuine but Tuttles.

Patrons of Husbandry.

San Jose Grange and Water Storage.

The San Jose Grange meeting Aug. 19 was, according to the *Herald*, one of unusual interest. Subjects which are of great importance to the public and which are coming rapidly to the front were up for discussion.

One of these was that of the conservation of water both for power and for irrigation. Millions of gallons of water go to waste each winter which might be impounded and turned onto the dry land in the summer season, thus increasing production enormously. There was some opinion expressed that this should be done by the general government. Some spoke of the advantages of the State taking up the work on a large scale.

Then there is the power which can be secured from the water. It can be used to supply electricity to light the towns and drive all the machinery. But, aside from developing electricity, power can be had to do a vast deal where coal and steam are now used.

This led naturally to the need of factories in California, and the Grange brought it home by pointing out the need of factories in Santa Clara valley. It was said that California—particularly this valley—is not so prosperous as her great resources warrant. In fact, in comparison with most Eastern cities of similar population, San Jose is behind in general prosperity. It was shown that labor is not generally employed save during the ten or twelve weeks of the fruit harvest. With factories, labor would have employment all the year, and a poor man would thus be encouraged to save a little month by month to pay on a home. As it is, this is impossible for many, as they have work only for a short season and must save their money to meet the dire needs in the winter of idleness. It was claimed that factories would change all this.

Fruit is ripening rapidly and many growers are drying their own crop.

Elk Grove Grange.

To the Editor:—Elk Grove Grange will confer the first and second degrees on a class of ten—six brothers and four sisters—on Sept. 2nd, and a special meeting is called for Sept. 21st to confer the third and fourth degrees and the usual harvest feast. A worthy sister of this Grange, Mrs. Macy, brought in these applications at our last regular meeting.

A great many members of Elk Grove Grange will visit the State Grange at Napa this year. Correspondent.

JERSEY BREEDER wants to contract to select, import or manage a first-class Jersey herd in the West, or select consignments of native or island-bred Jerseys for a number of responsible western breeders. Life-long experience. References, leading breeders of the U. S. Address J. F., care of Jersey Bulletin, Indianapolis, Ind.

WANTED.

FOREMAN to take charge of dairy stables and herd. Rooms for small family. Address, with references, M. D. Eshleman, P. O. Box 2757, Fresno.

Work of the Glacier.

Rivers work openly where people dwell, and so does the rain and the sea thundering on all the shores of the world; and the universal ocean air, though unseen, speaks aloud in a thousand voices, and explains its modes of working and its power. But glaciers, back in their cold solitudes, work apart from men, exerting their tremendous energies in silence and darkness. Coming in vapor from the sea, flying invisible on the wind, descending in snow, changing to ice, white, spirit-like they brood, outspread over the predestined landscapes, working on unwearied through immeasurable ages until in the fullness of time the mountains and valleys are brought forth, channels furrowed for the rivers, basins made for meadows and lakes and soil beds spread for the forests and fields that man and beast may be fed. Then, vanishing like clouds, they melt into streams and go singing back home to the sea.—John Muir.

Deafness Cannot Be Cured

By local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free. F. J. CHENEY & CO., Toledo, O.

Sold by Druggists, 75c.

Hall's Family Pills are the best.

✦ FANCY POULTRY. ✦

We keep all the leading varieties. Have 60 breeding yards. Why not improve your stock. Man'f'r of the Improved Pacific Incubator. Absolutely self-regulating, hot water. Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.* PACIFIC INCUBATOR CO., 1317 Castro St., Oakland, Cal.



PATENTS



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Breeders' Directory.

Horses and Cattle.

HOLSTEINS—Winners of 8 very 7 days' butter contest at State Fair 1898 1st & 2nd for aged cows, 4-yr., 3-yr. & 2-yr.-olds; 21 *Jerseys & Durhams competing.* 4th year my Holsteins have *beaten* Jerseys for butter. Stock for sale; also pigs. F. H. Burke, 626 Market St., S. F.

JERSEYS, HOLSTEINS & DURHAMS. Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders, for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

J. H. GLIDE, Sacramento, Cal. Have 70 choice Durham Bulls for sale.

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J. R. CATLETT, Pleasant Grove, Cal. Breeder of fine S. C. Brown Leghorns and Mammoth Bronze Turkeys. Leghorn eggs 50c for 13 or 11 settings for $5.00. Turkey eggs 25c each. Write for wants. Satisfaction guaranteed.

SANTA TERESA POULTRY FARM, Eden Vale, Santa Clara Co., Cal. Illustrated catalogue and guide free. 'Twill interest and please; send for it.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties of Poultry, Dairy Cattle and Hogs.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

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BERKSHIRE, POLAND-CHINA & DUROC HOGS. Choice; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

J. P. ASHLEY, Linden, San Joaquin Co., Cal. Breeds Berkshire, Poland-China and Essex Swine.

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C. P. BAILEY, San Jose, Cal. Angora Goats and Persian Fat-tailed Sheep. Catalogue free.

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FARMERS should know its value and its importance in a fertilizer to be applied to their grain crops.

Our illustrated books which tell what Potash is, how it should be used, and how much Potash a well-balanced fertilizer should contain, are sent *free* to all applicants. Send your address.

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THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

EL DORADO LINSEED OIL WORKS CO.
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SNODDY'S HOG CHOLERA SPECIFIC *Cures and Prevents*



HOG CHOLERA.

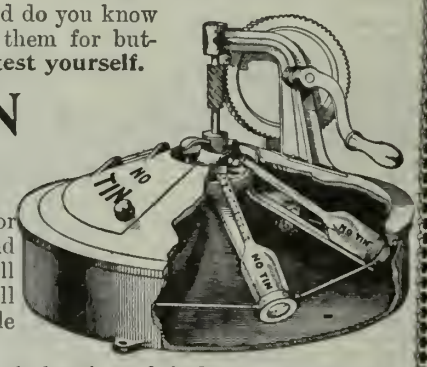
Never fails when used as directed. Every box of the genuine has the sick hog on the label. Agents wanted.

The Snoddy Medicine Co.,
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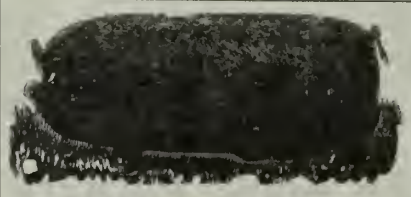
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Bleaching Walnuts.

The Anaheim walnut growers, through Mr. J. B. Neff, recently sent samples of discolored walnuts to the experiment station at Berkeley, asking that a formula be prepared for a bleaching solution into which the nuts could be dipped. Careful experiments were made and the following report was furnished by the station:

BERKELEY, Cal., July 31, 1899.

J. B. Neff, Anaheim, Cal.—DEAR SIR: Answering your request of some weeks ago, we send you a report of the results of our work upon bleaching refuse walnuts. At the same time we are sending you a package by Wells, Fargo & Co. containing samples of nuts treated with various bleaching solutions, as per labels upon the sacks. Either of the following formulas seem to furnish satisfactory bleaches for the culls received from you:

No. 1. Six pounds bleaching powder (also called chloride of lime), 12 pounds sal soda, 50 gallons water.

Made by dissolving the bleaching powder in water, allowing insolubles to settle; then draw off the clear liquid and to it add the dissolved sal soda; agitate, and then allow the calcium carbonate to settle; draw off the clear liquor and make up to 50 gallons with water. This should weigh about 425 pounds avoirdupois.

To bleach, use this liquor with the nuts in it, adding sulphuric acid (strength 43° B) in such quantity as not to amount to over $\frac{15}{100}$ of 1% absolute sulphuric acid in the whole bleaching mixture—in other words, to the 425 pounds bleaching liquid add 1¼ pounds sulphuric acid of the strength 43° B, *i. e.*, 50% acid.

The culls treated with this mixture five to ten seconds and washed with water are marked No. 1. They seem to be uninjured in any way.

No. 2. Twenty-five pounds bleaching powder, 18 pounds sal soda, 50 gallons water, compounded as above for No. 1. This should weigh 430 pounds avoirdupois. To bleach, use this liquor with sulphuric acid at the rate of 1¼ pounds per 50 gallons.

The nuts treated with this mixture five to ten seconds and washed with water are marked No. 2. They appear to be properly bleached and are uninjured.

Another experiment was made with solution No. 2, to determine how many times it would act with fresh additions of sulphuric acid at the rate of 1¼ pounds per 50 gallons. The liquor, after bleaching nuts once, was again turned upon fresh culls, and acid added. At the end of ten seconds the result was that the culls were bleached about one-half as well as the first lot. The liquor was used again with fresh nuts and acid three and even four times. Some bleaching effect was noticeable in each case. It would seem, in practice upon fresh nuts from the orchard, that successful results might be expected by using the same liquor over and over three or four times upon fresh lots of nuts and acid.

All of the above experiments can, of course, be repeated exactly in practice, but our attempt only shows what can be accomplished with the culls you sent. It may be that you will obtain very good working tests with less sulphuric acid. GEORGE E. COLBY.

Approved: E. J. Wickson, Acting Director.

What the Southern Exchange Says About Dried Fruit.

A. R. Sprague, President of the Southern California Deciduous Fruit Exchange, under date of Aug. 19th, makes the following statements:

A letter just received from one of our most careful agents East, after discussing the apricot situation, says: "Apricots will bring whatever price the speculators put on them after they have secured the stock in California. The grocery trade generally are not speculators but will take the goods when they need them at the market price—same with peaches."

As to what peaches are worth, I wish to present some considerations that seem to me of first importance in reaching a conclusion:

First—The total annual product of peaches east of the Rocky mountains exceeds the product of the coast in the proportion of ten to one, approximately, and there they have less than one-tenth of a crop, so that the total crop is not over one-fifth of the average for the whole country.

Second—The usual "carry over" of dried peaches from the previous season exceeds 25%, it being in volume large enough to supply the early fall demand for cheap peaches. This year there is no "carry over" either of peaches, apricots or apples.

Third—The amount shipped East, either fresh or canned, does not usually exceed one-third to one-fourth of the whole crop. Up to date this year, three times as many peaches have been sent East as were sent in either of the two previous years; very many more than usual have been canned, so that the proportion to be dried will be much less than usual.

Fourth—In recent years men have been much out of work in the industrial centers of the East, and could not buy California fruit freely. This year all are at work and the per capita consumption of California fruits, fresh and dried, will increase.

The present low prices are only possible because very many growers North, having had no income for apricots, are obliged to realize upon their peaches at once, and have to take whatever speculators choose to offer; this gives the latter fruit to fill the orders for cheap peaches which they have sold as futures in the East, and thereby created the idea that there is such a glut of peaches here that almost any price will buy them. This is utterly without foundation, and when the October and November consuming demand sets in, it will be fully demonstrated.

Fruit Prices at Various Points.

HEALDSBURG, Aug. 17.—Prune drying commenced at the dry yards of Miller & Hotchkiss last week, but prunes are as yet coming in slowly. The prices paid range from $15 to $27.50 per ton, according to size. Mr. Miller informs us that very few of the lower grade are being brought in, the great majority ranging from $25 to $27.50. Small prunes rate as low as $15, but few are being brought.—Sun.

SAN JOSE, Aug. 19.—The prices paid run from $17 to $25 for from ordinary to good prunes and running up to over $30 for fine lots. Usually growers are drying or hiring their prunes dried. Dryers' prices are usually $4 per green ton, though there are some as low as $3.50, or $10 per dry ton, sacking extra. It looks as if the depression in cling peaches will recover somewhat, as soon as the temporary trouble with cans and canneries is over.—Tree and Vine.

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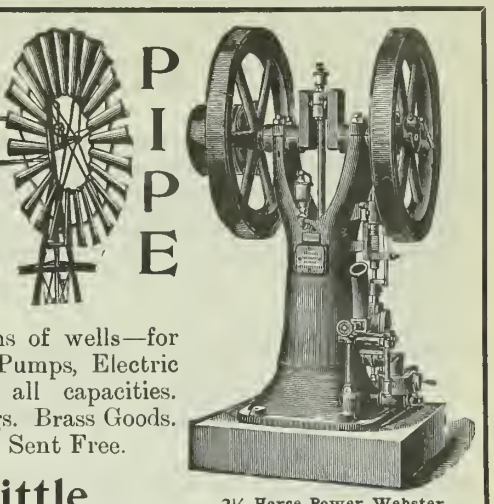
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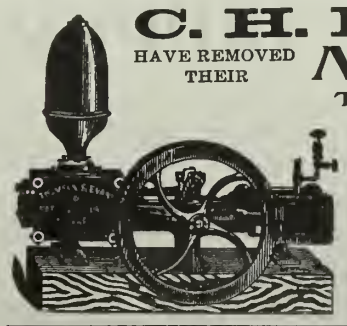
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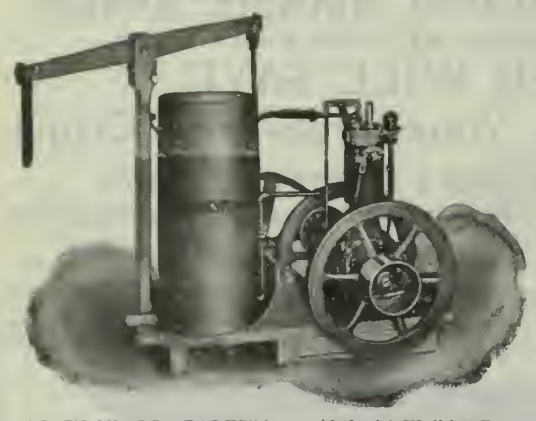
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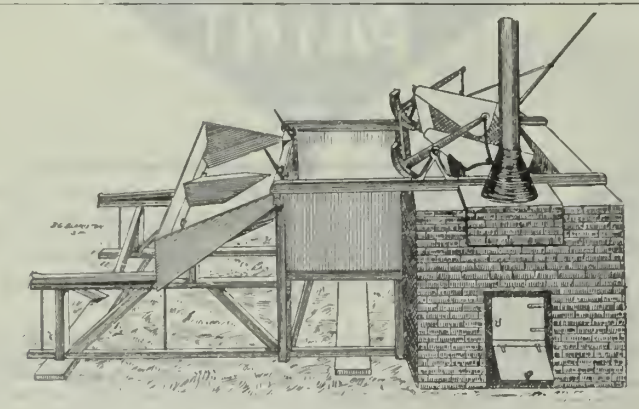
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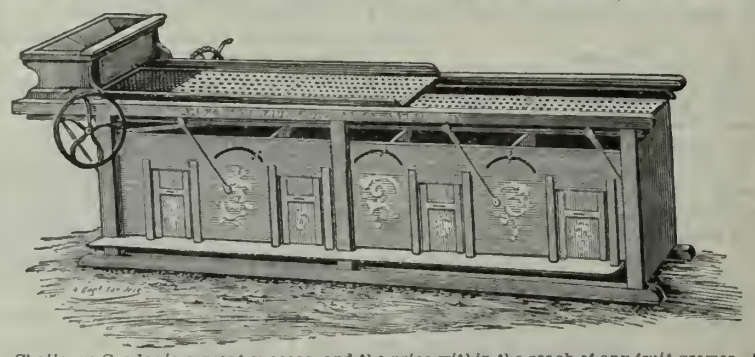
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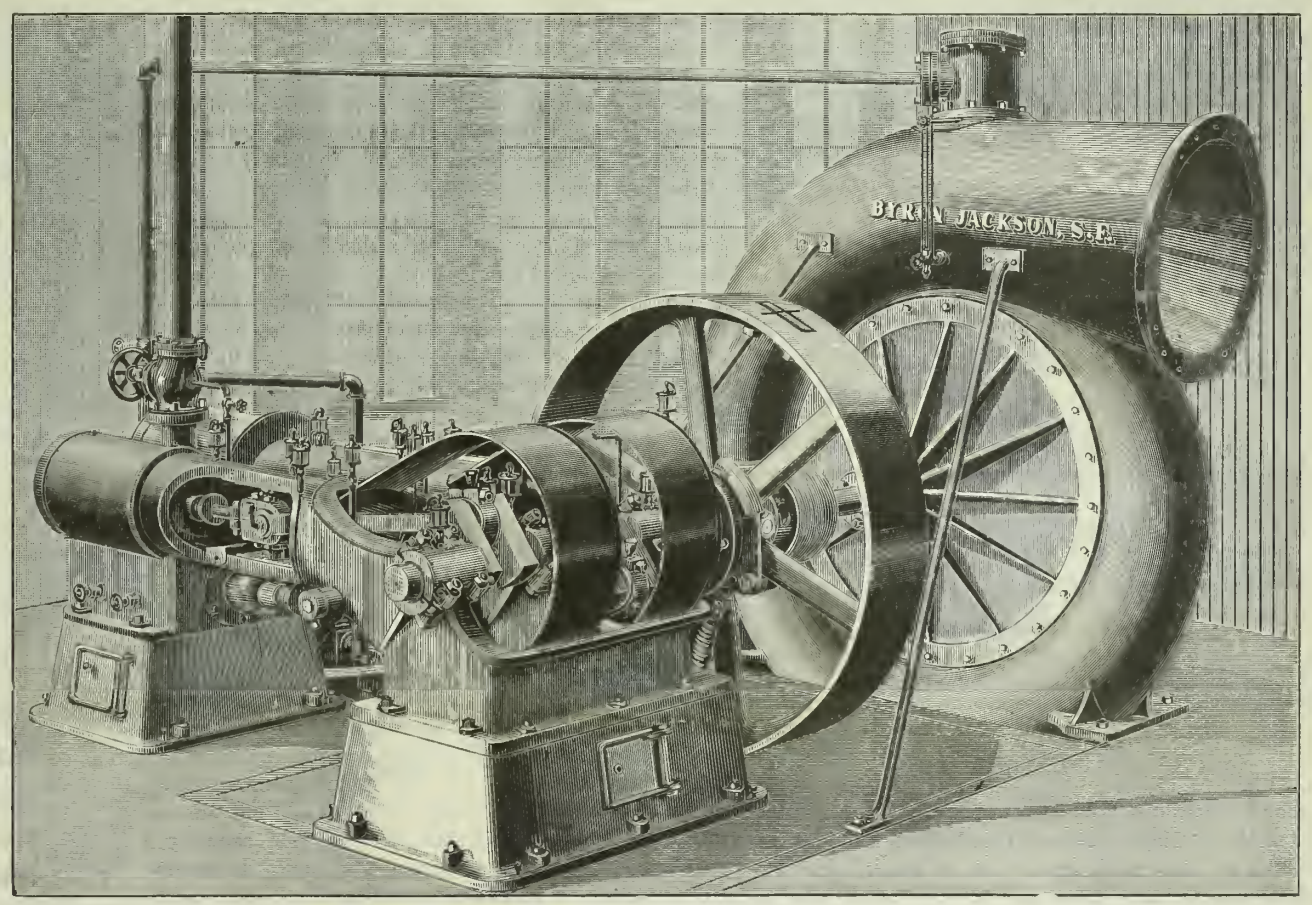
AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 10. SAN FRANCISCO, SATURDAY, SEPTEMBER 2, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Jersey Island Pumping Plant.

The success of crops depends upon soil moisture in proper amount and in some parts of California it is conditioned upon the ability to both control a sufficient supply of water for irrigation and to remove excess by drainage. Californians are now coming to rely upon capacious pumping machinery, both for irrigation and drainage, and are achieving notable success in both operations. Our leading pump manufacturers are therefore supplying outfits for those desiring to reclaim swamp as well as to irrigate arid land, and their achievements are widely interesting.

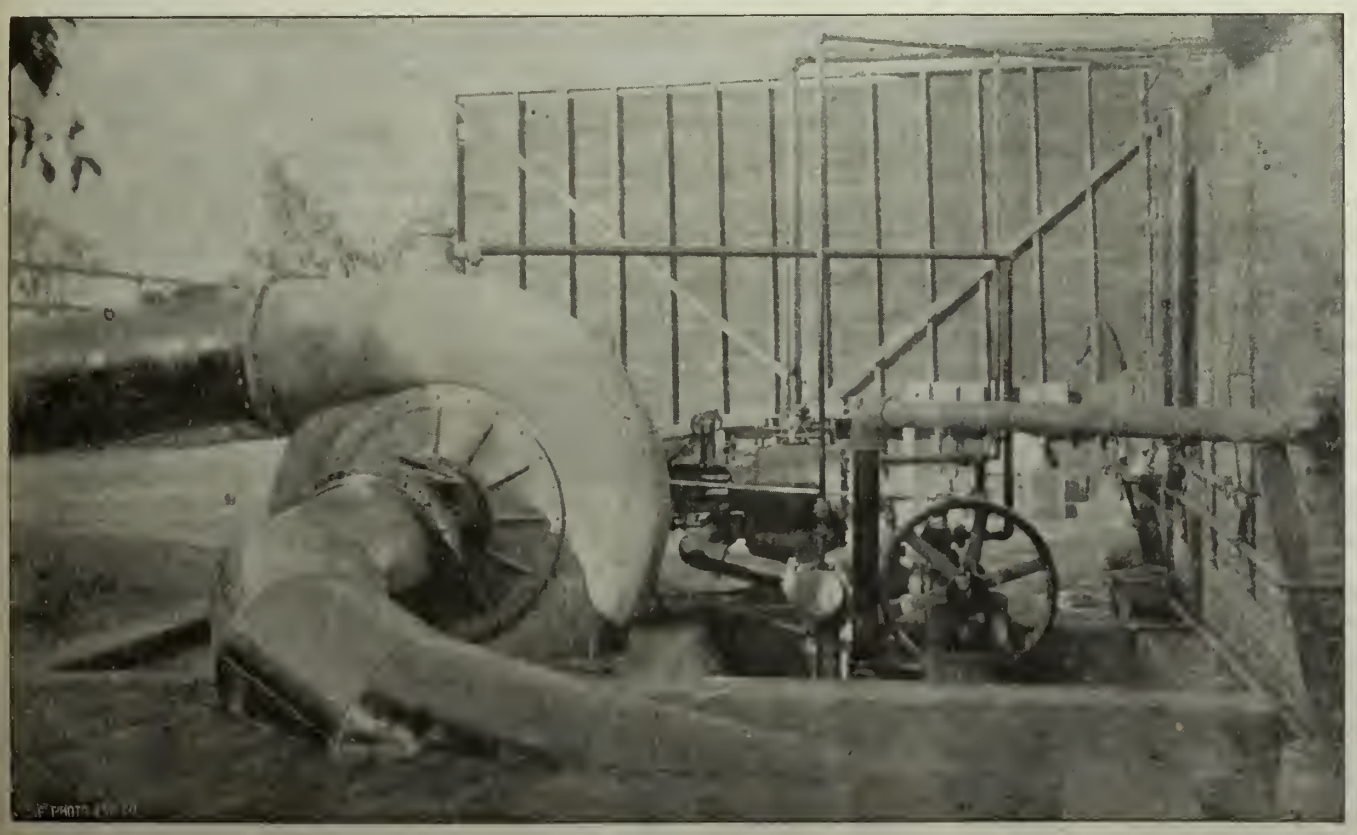
Upon this page we illustrate a plant recently erected at Jersey island, in Contra Costa county, and used for the purpose of draining that island. This plant consists of one 44-inch Jackson centrifugal pump directly connected to a 200 H. P. Jackson cross-compound condensing engine, both pump and engine being manufactured by the Byron Jackson Machine Works of this city.



JACKSON CENTRIFUGAL PUMP AND CROSS-COMPOUND CONDENSING ENGINE ON JERSEY ISLAND.

This engine is supplied with steam at 120 pounds pressure by a locomotive firebox boiler, properly lagged and installed, having 1080 square feet of heating surface. The exhaust from the engine passes into a jet condenser conveniently connected with an air pump and boiler feed pump; 128 feet of 44-inch steel pipe connects this pump with the sump in the island and with the San Joaquin river. The entire plant is installed on piling driven by the Jersey Island Packing Company for the purpose of stopping a 450-foot crevasse in the levee surrounding the island.

In this connection it is well to notice the great difficulty connected with draining this land. Nature has here provided an exceedingly rich soil, well adapted for cultivation and inexhaustible in fertility; but to obtain a secure foundation on which to rest heavy vibrating machinery in this soil is almost impossible. It is claimed that to do this for a plant operated by a gas engine would have been impracticable, owing to the impossibility of preventing destructive vibration in such engines. Indeed, even a steam engine, unless cross-compounded, would have been of doubtful utility, for every pulsation is taken up and accentuated by the surrounding peat soil, thus causing cracks and leakage through the bulkheads and levees that would in a short time destroy a structure costing many thousands of dollars. With the type of engine used, however, this objection has been reduced to a minimum, if not entirely removed, because the vibrations due to the impulse of one piston is met and counteracted by the opposite phase due to the impulse of the other. This plant began its test run during the present month and in the first fifty-seven hours it was operated made a discharge of 81,000 gallons per minute, removing from the 3400 acres of water in the island a vertical depth of 3 inches. This was pumped against an average static head of 2½ feet. A friction head of 2½ feet brings the total head up to 5 feet, the velocity and entry head being in this case so small as to be negligible. To lift 81,000 gallons or 10,820 cubic feet per minute, 5 feet high, requires an expenditure of 117 H. P. The indicator showed a consumption of 151 H. P., thus showing an efficiency of 77½% for the pump and engine. During a continuous run of 180 hours the estimated coal consumption was thirty tons or a consumption of 2.20 pounds per indicated H. P. per hour. With this plant the island will soon be drained of its present water and its 4000 acres added to the wealth of the State. A conservative estimate places the value of this land at $150 per acre, when drained and protected. This plant, applied to the purposes of irrigation, would supply water for not less than 12,000 acres of land, such as the Sacramento or San Joaquin valley plains, and it can be operated at less cost than the interest charged on the cost of a gravity irrigation plant of the same duty.



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E. J. WICKSON.....Horticultural Editor.

San Francisco, September 2, 1899.

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The Week.

The tremendous jubilation in honor of the return of the California volunteers from Manila was just beginning as last week's issue went to press. The realization of the last three days of the week was in advance of all anticipation. No equal demonstration was ever made in this city. The bay region and the more remote interior contributed notably and we have seen estimates that probably not less than 150,000 people visited San Francisco during the days of the celebration. One judging alone by the difficulty of transit of the main streets would place the figure at a million. Every one, however, had reason to rejoice, for we do not hear that any serious mishap occurred. The vestiges of the celebration remain, for the elaborate electric appliances are still in place and will be used in welcoming incoming soldiers of other States at their debarkation here, and the sonorous sirens still have ample steam to fill the air with joyful jargon. These are certainly times worth living in.

The vast hungry multitude made its mark for a time upon local food markets, and the amount of ancient poultry and eggs which disappeared from view was almost incredible. As a natural result, there is a reaction in some lines this week, as the demand has fallen to its normal level. This applies, of course, not to staples, but to certain present-use commodities. Wheat is dragging now, but the outlook is fair. There is much wheat coming to tide water, and no ships available just now. Barley is quiet, but no lower. The shipment of 50,000 tons of barley within a few weeks causes buyers to slacken up a little. Rye is still going aboard ship. Mill feeds are unchanged; supplies and demand about balance. Hay has a little better tone, but there is no change; receipts are still falling off. Meats are all firm and the demand is fair. Live hogs are still coming from the East and local supplies are very low. Eggs and butter are scarce and high for fine fresh stock, but both are coming from storage freely now. Eastern poultry, alive and dressed, is coming in freely, and only choice local shipments sell well. Onions are in good demand for Australia. Potatoes are easy. The fresh fruit market has improved. Dried fruits are quiet but strong. Good peaches sell well, but there is much ordinary stock offering.

The Dried Fruit Situation.

There has been a general meeting of fruit growers called for Saturday afternoon of this week at San Jose, which should receive wide attention. In brief, the situation seems to be this: Buyers are not ready to pay what the fruit should really be worth, in view of the visible supply and the demand to be confidently expected for the present crop. It is said that buyers name a low price because early purchasers last year found that later purchasers obtained fruit for less than they and could undersell them. It is held, reasonably enough, as it appears to us, that if there could be an organization widely supported enough to make a minimum price to hold for the present crop buyers would operate more freely, because the fear of competition with fruit bought for less than their rivals would be done away with. This brings in the general question of the feasibility of combining a large percentage of the growers and the pooling of the product in the hands of the directors of an association. We fully believe that would be a cure for many ills, and we would be glad to see it accomplished. That, however, can hardly be attained soon enough to help with the crop which is now being gathered, and exhortation in that direction hardly seems to be called for now.

What does seem feasible, and to which we imagine the meeting on Saturday will directly address itself, will be to undertake by joint effort and strength some way by which those growers who need funds at once can secure them without forcing sales and without passing the product out of their control to secure advances. There promises to be rather a small crop of unusually fine prunes. Old supplies have been practically cleaned up and the whole prospective supply will be required for consumption before another crop can be secured. Properly cured and properly stored, prunes ought to be, then, an excellent collateral for such part of their value as the growers need for present uses. There is plenty of money needing employment and its owners wish interest for the use of it. The immediate problem seems to be to put the whole business in such shape that good prunes shall seem a desirable security, enabling the producer to secure the money he needs and guarding the product from sacrifice which will not only destroy its own value, but that of all the other prunes which growers may be able to hold without obtaining advances.

And this is not a need of those alone who have prunes. The dried peach crop is much in the same condition and dullness and depression was experienced as soon as pressing demand for present use satisfied itself from the early receipts. The present offers for good dried peaches are not the fair value of the product in view of the world's supply. Growers, therefore, who need money now are obliged to sacrifice value to which they are duly entitled. We have no doubt that all the peaches which California can put in permanent form this year will be sharply required, but in view of the chances the cautious buyer for future sale will naturally pay no more than is necessary to get supplies into his hands and will only take what he can get at low rates.

Now it ought to be perfectly feasible to make such arrangements that these products would be accepted as security for a reasonable fraction of their value until they are in demand at a fair valuation. Suitable warehousing and grading and authoritative certificating and insurance ought to constitute good dried fruits a security which banks could do business upon in a safe and conservative way. It is a sad commentary upon banker's wisdom that they will sometimes carry a fruit speculator to unreasonable limits and to great losses and yet refuse to recognize the product itself as good security. It is not the fault of the product that speculative buyers go into unwarranted schemes and are worsted in open corners or in boom projects. It was the fate of wheat to be held responsible for such operations years ago and wheat properly handled as security is about as safe a thing as can be imagined.

It seems to us that if the growers will take hold energetically of the opportunity which may arise at the San Jose meeting on Saturday, they can do something effective toward the true recognition of dried fruits as security and arrange for the funds necessary to tide over the present difficulty. Perhaps, if they succeed in this it will enable them to go forward more confidently toward the realization of an organization which shall handle the product in a businesslike way for the benefit of the producers. If so, it will be well, but the pressing need at the moment would seem to be approachable without demonstrating that producers are willing to pool their product. The Santa Clara region has had experience enough in the business side of fruit production to arrange what is now needed without much difficulty, and those interested both directly and indirectly will bring force to the movement by participation and active effort.

Made in America.

A most significant tribute to American genius and spirit is conveyed, almost unconsciously, by a distinguished European economist. It is telegraphed from Washington that the State Department has received from Vice-Consul-General Hanauer of Frankfort some comments on a book recently written by the Roumanian Consul-General in Germany, Carl Simon. Simon is said to rank high as an economist and his book has made a deep impression. The book is entitled "The Export of Products of Agriculture and Agricultural Industries From the United States of America." The author is quoted as saying:

Agricultural products from the United States compete severely with those of native growth. The competition of the United States does not, like that of other grain-exporting countries, confine itself to cereals alone, but is a dangerous rival in all fields, as the country exports all kinds of agricultural machines. The competition of other countries is, further, not as hurtful as that of the great Republic, because their method of production and commercial handling of the products are primitive, and our agriculturists can more easily compete with them. The methods of the Americans, on the other hand, are perfect.

Germany's import of food articles for the year 1897 amounted to over $250,000,000. This figure is alarming and should induce her statesmen to adopt every measure calculated to foster home production so as to change the adverse trade balances which for the past years have existed in German commerce with foreign nations. In this respect the Americans ought to be looked upon as teachers of national economy.

This tribute to American spirit is all the more impressive from the fact that Mr. Simon counts both the export of food products and the improved appliances by which they are so cheaply produced as instances of the harmful nature of American competition. The fact seems to be, however, that America is not only sending cheap food to the outside world but at the same time is enabling all nations to come upon the same ground of producing advantage with her if they will. The ultimate effect of this may be to so stimulate cheap productions of food in other supply regions that we shall create competition against ourselves. In this sense America is surely entitled to the distinction of being not only a great agricultural teacher but to possess also the grandest attributes of a great teacher and that is to stimulate pupils to advancement even though they should pass far beyond his own attainments. America thus demonstrates the possession not alone of great accumen but of surpassing generosity and philanthropy. How far the outside world will be able to emulate American results even with the advantage of the best American methods and machinery is of course an undetermined point. The man behind the plow holds the mastery of results. It does not rest in the plow itself. It seems probable then that competition with America rests upon such degree of attainment as the men of other nations may secure in the qualities of industrial manhood and efficiency which have achieved American eminence. We are doing the best we can for the world. What the result may be depends not upon us but upon the world.

President M. Theodore Kearney of the Raisin Association has returned from Europe and telegraphs from New York favoring the outlook for raisins this year in view of the reduced production and the clearing up of old stock. Careful calculations show that the whole crop for the State will be from 2500 to 2800 carloads. There has been recently an active demand for the old crop of raisins the association had on hand, and of these there now remains unsold only 225 carloads. At this time last year there was in the hands of the association undistributed about 1000 carloads.

QUERIES AND REPLIES.

Is the Peat Industry Feasible?

To the Editor:—Why would it not be a good enterprise to put into shape for burning some of the immense peat deposits which we hear about on the tule islands and elsewhere? The high price of coal would seem to make it very profitable.—Querist, San Jose.

This proposition comes to us from time to time, and it has to be received with some caution. It may be feasible to make commercial peat profitably, but the peat industry once begun at one of the islands of the San Joaquin delta was abandoned long ago as unprofitable on account of high wages and the difficulty of introducing the fuel, nobody caring to leave the beaten track of coal and wood. As to the quality of California peat, Prof. Hilgard says it is wholly different from the Eastern peat, which results from the growth of peat moss, all peat in this State being due to tule or grass roots. Most of it is quite "raw," containing a great deal of undecayed stem, and the ash percentage varies greatly in accordance with the floods of the particular years during which the roots were formed—say all the way from 12% to 50%. On account of this unevenness and imperfect decay, Prof. Hilgard does not consider the material at present a very hopeful subject of manufacture. He remarks, however, that the peat of the swamps near the sea coast in Orange county would be very much more to the purpose. It is more uniform, farther advanced in decay, and altogether looks and behaves more like the peat of the East. It would, of course, be necessary to pick out the purest parts of the deposit.

Grape Mildew.

To the Editor:—Why are the foreign varieties of grapes so much more susceptible to mildew than American varieties?—H. W. J., Jefferson, Oregon.

The reason why foreign varieties are more subject to mildew than American varieties no one can explain. It is simply a fact which has been learned by observation and which rests in the natural susceptibility of the vine. The European varieties are subject to what is called "powdery mildew;" the American varieties are subject to "downy mildew," but this last fungus does not seem to be troublesome in our dry climate, while dry air is rather favorable to the powdery mildews. So you see that the prevalence of either of these fungi rests perhaps in part upon the character of the vine and in part upon its own peculiar requirements.

Cross Pollination of the Peach.

To the Editor:—Is there such a thing in horticulture as the Susquehanna peach planted by the side of the Orange Cling peach being so pollinized by the Cling bloom that the Susquehanna would bloom more like the Cling?—L. H. G., Hanford.

It is pretty hard to say what is possible and impossible in this matter of cross-pollination. What all would have pronounced impossible a few years ago has recently been clearly shown to be possible. However, such an effect as you speak of is practically impossible, or at least so improbable that it need not be considered at all in planting out varieties in adjacent places. It has been claimed that cross-pollination immediately affects form and flavor of squashes because the pulp is really a part of the seed vessel and that the pulp of the fruit is not affected because it surrounds the seed vessel but is not actually a part of it. We do not know how it is.

Fall Potatoes.

To the Editor:—Please tell me through your paper which is the proper time to plant potatoes for fall raising.—Mazal, Loomis.

Plant just as soon as possible. If you have land which you can thoroughly wet down, then plow and plant. To get the new crop by the holidays, they should have been planted a few weeks ago. Fall potatoes should be sown about July 1st.

The Moorpark.

To the Editor:—Would you kindly tell us about Moorpark apricot trees? We have an orchard seven or eight years old in good, vigorous condition—very large thrifty trees—but they do not bear fruit this year. We had 800 pounds of dried fruit from ten acres; last year we had 1700 pounds of dried fruit. This is a good fruit locality, Royal apricot orchards in same neighborhood bearing heavily. Are the Moorparks always shy bearers? Is there anything we can do to make them produce fruit?—Reader, Simi, Ventura county.

What you say about the behavior of the Moorpark apricot agrees with the general experience with this variety. It is notably a shy bearer in almost all places. Especially in southern California it has been under condemnation for the last ten years or more. It is nowhere a full or regular bearer, but in some places it does better than in others; and where it occasionally bears good crops it is retained by growers because of the excellence and high price of the fruit. Experiments have been made and sometimes yielded apparently good results in vigorous summer pruning of the Moorpark to promote its fruit bearing, but this has not succeeded in all cases. The Royal apricot is a good and regular bearer everywhere, and for that reason it comprises at least three-fourths of our apricot plantations.

The Splendor Prune.

To the Editor:—To-day I send sample of "Splendor" prunes for sugar test, etc.—Leonard Coates, Napa.

The determinations of the Splendor prune as compared with the French, made by G. E. Colby of the University Experiment Station, from the specimens sent by Mr. Coates are as follows:

	Splendor.	*French.*
Number per lb	15.75	19.20
Flesh, per cent	95.70	94.20
Pits, " "	4.30	5.80
Juice, " "	88.	83.1
Pulp, " "	12.	16.9
Sugar, per cent in juice	22.87	23.69
" " " in flesh	20.13	19.70
" " " whole fruit	19.27	18.50

This shows that the fruit is closely comparable with the French prune. The Splendor is greater in juice and would probably lose more in drying. The exact drying value of the prune must be determined in practice. The acid in both prunes is identical and from this fact and what is given above the two fruits belong to the same class in richness and flavor, with the general appearance of the dried fruit to be determined in practice.

Bleaching Walnuts.

To the Editor:—The last issue of the Rural contains the results of some experiments in bleaching walnuts. The treatment described was applied only to culls. Would the same process be commercially practicable for all grades and be safe to use in the place of sulphur? The trade demands bleaching and there is some objection to the general use of sulphur for that purpose. What is needed is some substitute that is cheap, safe and reliable.—H. F. C., Ventura county.

The bleaching process was certainly intended to apply to commercial nuts. It was tried upon culls because they are cheap to practice upon, and, as they were badly stained, they constituted a very severe test of the method. The publication was made as suggestive and as a basis upon which growers could proceed to determine what strength and what treatment fine nuts would require. The dipping is not open to the objections urged against sulphuring. Most careful tasting proved the flavor unimpaired. The Orange county walnut growers are counting upon using the dip instead of sulphur this season.

State Fair Notes.

The State Fair, which will open in Sacramento on Sept. 4th, bids fair to be an unprecedented display of agricultural achievements. Besides a splendid display of draft horses and other stock, there will be an exhibition of thoroughbred cattle never before equaled on this coast. There will be at least five herds of the finest cattle ever seen west of the Rockies, and some as fine as can be found anywhere in the United States. Each of these herds will contain at least twenty-five head of stock, and will represent the best breeds extant.

The Society has erected a great canvas pavilion in which the poultry will be shown, and, from the exhibitors already heard from, it is assured that all of the standard and fancy varieties will be shown. Prominent among the ornamental breeds and new varieties will be Anconas, White Minorcas, Buff Leghorns, Houdans, Buff Wyandottes and white-crested Black Polish. Many fancy game chickens will be on exhibition, as well as the leading varieties of pigeons, Belgium hares and other pet stock. The services of a professional judge have been secured, and poultry fanciers are looking to see one of the greatest shows ever collected on the coast.

A model creamery will be in practical operation; a model silo will be shown under the supervision of a member of the Farmers' Institute staff of the State University.

The California Dairy Association will hold its annual convention at Sacramento, Sept. 11th and 12th, during the Fair. A very large attendance is expected, and matters of great importance to the dairy interests will be considered, principally the development of our export trade with the Orient, and the method of feeding to produce butter for this trade, and the proper manner of packing the goods so that flavor and quality will be preserved.

The exhibition of dairy stock at the State Fair promises to be particularly interesting this year. Some of the finest herds ever seen in California will be on exhibition, and Major Henry E. Alvord of the National Department of Agriculture will judge the competing cattle in the dairy class and explain the different points of excellence as his judgments are made. Every dairyman should improve this opportunity of acquiring information from such an eminent authority.

Prof. Withycomb of the University of Oregon, who is said to be one of the best judges of stock in the West, will judge the farm animals on exhibition at the State Fair. He uses a score-card system chiefly, and explains, as he proceeds, the points of excellence in the animal judged.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Aug. 28, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has been nearly normal along the coast, but has continued several degrees below in the interior and in portions of southern California. Light rain fell in Humboldt county. Warmer weather is needed to mature and increase the percentage of sugar in raisin grapes, which are now considerably late in ripening. It is reported that the first crop of raisins will be light and deficient in sugar. Late deciduous fruits are maturing favorably and the crop is very large. Canning and drying are progressing and heavy shipments are being made. Figs of excellent quality are in market; the yield is abundant. Citrus fruits are looking well. There will probably be a large crop of oranges. Walnuts are filling out rapidly and promise well. Almonds are yielding well in the Sacramento valley. Hop picking has commenced in some sections; there will be a large crop. Grain harvest continues in some localities, being retarted by a scarcity of labor and machinery. The yield of wheat and barley is said to be far above all early estimates.

Sacramento Valley.

Tokay grapes are coloring and all fruits are doing well. Warm, clear weather has been favorable for drying. Help is scarce at the canneries. Heavy winds damaged fruit in some sections, and grapes were somewhat injured by hot, dry winds. The yield of wheat and barley is very heavy. Harvesting and threshing are nearly completed. There is a large crop of almonds in Sacramento county.

Coast and Bay Sections.

In some localities the cool weather has somewhat retarded the ripening of deciduous fruits, but Muir peaches and prunes are now ripening rapidly. Grapes are doing well. Prune drying is in progress. The scarcity of harvesting machinery is retarding the work somewhat. Field fires in San Luis Obispo county destroyed about 1500 acres of grain. Hops, corn and potatoes are looking well; a good yield is assured. Pasturage was benefited by recent showers in the north. Sugar beets are being injured by a pest in some sections. Hop picking has commenced in a few yards; the crop will be heavy.

San Joaquin Valley.

Grapes are ripening rapidly, but warmer weather would be beneficial in increasing the percentage of sugar in raisin grapes. In some sections fruit was damaged by recent high winds. Late Cling peaches are ripening, and prunes will be gathered soon. Dried and canned fruits are being shipped in large quantities. There is a large crop of figs. Wheat shipments are progressing. The warehouses are well filled. Alfalfa is looking well. Sweet potatoes are looking well; there will be a large crop. Pasturage is becoming very short in some sections.

Southern California.

Table grapes are becoming plentiful. The yield of deciduous fruits is comparatively light, but the quality is excellent; good prices prevail. There will be a large crop of guavas. Oranges promise well. Grapes are thrifty. The water supply is holding out very well. Walnuts are filling out nicely. Beets are small, but of excellent quality; fair crop in some sections.

Los Angeles Summary.—Summer crops were benefited by continued cool weather and foggy nights, though ripening of fruit retarded. Table grapes are ripe, but raisin variety will be late. Prune harvest begins soon.

Eureka Summary.—Weather continues favorable for crops, particularly beets, corn and potatoes. Grain is mostly in shock and being thrashed in some localities. Feed short; grain above the average; fruit fair.

The following data for the week ending 5 A. M. Wednesday, August 30, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.02	.41	.06	.16	48	64
Red Bluff	.00	.02	.00	.06	60	94
Sacramento	.00	.02	.00	T	52	90
San Francisco	.00	T	T	.04	50	74
Fresno	.00	.00	.00	T	58	98
Independence	.00	.07	.11	.08	60	92
San Luis Obispo	.00	.00	.00	.06	48	88
Los Angeles	.00	.02	.07	.06	54	88
San Diego	.00	T	.00	.06	58	76
Yuma	.00	.06	.00	.51	66	106

FORESTRY.

Observations on the Denudation of Vegetation---A Suggested Remedy for California.

NUMBER III.—CONCLUDED.

By Marsden Manson, C. E., Ph. D., in Sierra Club Bulletin.

Where Should Forest Control Lie?—No policy contaminated by political control can be enforced over the long periods of time necessary in successful forest management. There is now on trial in New York the experiment of putting forest preservation in the hands of the State, aided by the broadening influences of a college of forestry. It is probable that the results will be more favorable than any possible under the General Government, for the nearer these great interests are to the people—to the individual—the greater becomes the possibility of beneficial results. The State Government is, however, liable to the same error as is the General Government. The same evils attend both systems. The differences are those of degree only, with readiness of correcting mistakes and evils possibly in favor of State administration. The evils attendant upon State administration of these problems are indicated in the case of the swamp and overflowed lands granted to this State by the Arkansas Act of 1850, the history of which is replete with mismanagement and fraud. To insure the most efficient management and the eradication or correction of the present evils with their certain results, a further remove from political influence is necessary than is likely under either mode of control. To some conservative body, constitutionally stable and beyond the reach of political influence, must these vital interests be intrusted. The nearest to this ideal is the Board of Regents of our State University. To their hands is intrusted the more important duty of directing the higher education of the youth of our State, and to them may be intrusted the care of our forests, particularly since the care and extension of forests and the conservation of water afford some of the best means of practically teaching and enforcing the broadest principles of economics. In the great problems of forest preservation and extension lie some of the grandest applications of science, particularly of that branch of science the object of which is "the utilization of the materials and forces of nature for the benefit of man." The student can find no more comprehensive problems than those connected with replacing and conserving the forests, for these problems vitally affect the ultimate development of every industry of our State, and, under our peculiar climatic conditions, will for the remotest future determine the metes and bounds of the civilization which we are striving to establish.

We have but to ask what has followed the devastation of the forests of Lebanon, of the Caucasus, of the Atlas, of the Apennines and of the Pyrenees to answer with certainty the question, What will follow the devastation of the forests of the Coast Range and of the Sierras? History and nature record no law more inflexible, no effect more certain, than that poverty and degradation follow upon the destruction of the mountain forests. Could this lesson be fully impressed upon our youth—upon the statesmen of the future—there is no effort they would not willingly put forth to check the destructive agencies now in force. The revenues which these public lands and reservations can, without damage, be made to yield can be made adequate to inaugurate systematic forestry without calling upon either State or national funds, except sufficient to start the work. It requires the uniting of all interests and the execution of the plan upon broad lines for the benefit of the great commonwealth—the State of California.

The Remedy Suggested for California.—The writer therefore advocates that all forest reservations and public lands upon mountain slopes, within the borders of the State, be granted by Act of Congress to the University of California in trust; that the object of this trust be to protect, maintain, develop and extend the water supply of these areas forever. For this purpose the regents be empowered to lease, under proper control, the timber-cutting and pasturage privileges of these areas and to use this fund:

1st. To protect the catchment areas.

2nd. To maintain a college of practical forestry.

3rd. To construct reservoirs at such points as may be necessary to the industries of the State and dispose of the water for the benefit of the trust.

4th. To acquire mountain lands to be added to the catchment areas.

5th. To do all such things as may maintain wise systems of forest and water conservation and use.

Since the Government has sold the timbered areas and permitted them to be stripped to the serious injury of our water supply, it may justly be claimed that the least restitution it can make is to set aside the remaining lands for the purpose of restoring and conserving this water supply.

Forest Revenue.—The extent of income-bearing property which can be made available for forest preservation and storage of flood waters is far beyond the general idea. It has been shown that the public lands and reservations within the borders of the State of California are about 68,000 square miles. It would be difficult to determine the value of the pasturage and timber-cutting privileges of this area. The fact that it covers more than one-third the area of the State, and that upon it a large portion of the stock raised in this State and in the adjoining State of Nevada is annually pastured, is proof that it is of considerable moment. Although public domain, it is used for private purposes in a way that is surely accomplishing a ruin of which we have but an inadequate knowledge. An experienced stockman placed the value of the pasturage privileges of the Yosemite Reservation at $50,000 for the summer of 1898 and at more than half that sum for ordinary years.

Inyo and Mono counties draw a revenue of from $3000 to $7000 per year from a "sheep license," which they levy on itinerant herders who pasture sheep on the public land in those counties.

The Yosemite Reservation is about one forty-fifth of the public land and forest reserve areas, and on the above valuations is estimated to be worth at least $25,000 per year for pasturage alone. This probably measures a considerable fraction of the value of the entire area. If this fraction be placed at one-tenth the gross value of these privileges, it represents a revenue of a quarter of a million dollars per year, or 4% income on $6,250,000.

Present Devastation.—It must be borne in mind that this area is now being used by individuals in such a way as not only to devastate it, but to seriously damage the fertile valley lands below the mountain areas and to threaten cities and farming communities with ever-increasing floods, with the resulting low-water stages of spring and summer. If this policy be continued it will reduce our State to the conditions now prevailing in corresponding latitudes in Spain, Italy, northern Africa and Asia Minor. The same forces, the same methods, which have stricken those countries with poverty and degradation are to-day being wantonly and recklessly put in force here. The people of those lands are even now finding congenial employment upon our mountain slopes and are inaugurating the same practices which have reduced the orchards, vineyards and pastures of their forefathers to uninhabitable wastes.

Thus these vast areas are becoming more and more barren and less and less able to restrain floods, instead of being systematically improved with the ever-increasing revenues which they can be made to yield.

Mining and agricultural interests are now confronted with the necessity of organizing to secure State and Government aid to construct reservoirs, to store flood waters for use during the late summer and autumn, the increasing rate of run-off not leaving sufficient water in the streams to serve their needs. Even if these efforts were at once successful, the contruction of reservoirs will not answer future needs. Without forest preservation, these reservoirs will fill up with sand, gravel and cobblestones. Thus these reservoirs, if built, will answer the needs of only the immediate future.

The Object in View.—The only true solution of the question is to utilize the revenues which the pasturage and timber-cutting privileges of the public domain can be made to yield in protecting the watersheds from denudation and in conserving and storing the water supply. Could these revenues be justly expended for this purpose, the areas would be ever-increasing in value and usefulness, and nothing need be asked from the State or from the Government save a sum sufficient to inaugurate the work. If any better, any broader, plan be offered, the writer will bend every energy to put it in force. There are, of course, interests now thriving on the free use of these areas which, for selfish reasons, will oppose any measure looking to staying the destruction by which they profit. Yet if our civilization is to stand—if this great commonwealth is to advance with the advancing ages—this devastation must cease; systematic and economic use of this wealth must take the place of the methods now in vogue. History and nature record no law more inflexible—no effect more certain—than that poverty and degradation follow upon the destruction of mountain forests.

HORTICULTURE.

Fig Culture in Asia.

To the Editor:—The wild fig is a native of Greece and Asia Minor. Homer, in his "Iliad," mentions the wild fig on the hills of Troy, and east of Ilion, and they are to be seen at the present time about the two springs mentioned. I saw the wild fig in the gardens and parks at the Azores. The fruit is hard and juiceless. Some botanists claim that the sweet or edible fig is the "wild fig improved by cultivation," but successful fig growers differ from them, and show that with cultivation the wild fig has remained the same for 2500 years. In the great fig districts of Smyrma, that produce the choicest figs in the world, caprification by the wild fig is the universal custom. In 1897-98 for some reason the wild figs in that section failed to fruit sufficiently, and men were sent to Greece and wherever the wild figs could be obtained, paying liberally for them. These wild figs are tied in various places on the sweet fig trees at the time the crop is maturing. The insects that come from the wild fig caprificate the growing fruit. In this manner the highest perfection is obtained as to size, flavor and drying qualities.

In Tuscany this is not practiced, trusting to the agency of the wild fig that grows in that section, but their figs are not as good as the Smyrna product.

I am satisfied that California is the equal if not the best natural fig country extant, both in soil and climate for drying. Nevertheless we do not produce the fig equal to the Smyrna growers. It is also true that in the same section only those orchards that are fructified produce the prime quality. I asked an intelligent grower of thirty years' experience why the fig soured on the tree and would not dry well. He replied that they required caprification with the wild fig, when there will be no further trouble.

I am writing only what I learn from reliable sources of the practice in those countries, and if it is necessary to fructify the fig, as we know it is with the date, the earlier we adopt it the sooner we can supply our own country, as well as export the finest figs extant.

In some sections where fructification is not the custom the growers cut the figs in haves, and after drying pack them together again. In such cases the quality is poor and for local consumption.

I notice the Agricultural Department at Washington has or is about to send an expert to Smyrna to obtain such information as will enable us to compete in quality with them. This is a wise thing to do and of incalculable value to California. It is very much in evidence that all we require is the introduction of the wild fig. We may have the plants at present; if not, they can obtain them for distribution. I trust this matter will receive the attention it deserves. W. W. Whitney.

Athens, Greece.

[We are glad to have these personal observations of Mr. Whitney, and they will be read with interest. Mr. Whitney is a San Diegan, but he has passed so much time in travel that he has not been able to learn all that is going on in California. We have had the Capri fig in this State for twenty years, quite widely distributed, but the Capri fig without the blastophaga accomplishes nothing. Now, as fully explained in the Pacific Rural Press of July 8th, 1899, we have the blastophaga, and she has gone to work in good shape. The point which Mr. Whitney makes about fig-souring being cured by this agency is perfectly reasonable, and may be realized ere long.—Ed.]

Strawberry Growing at the North.

Californians will be interested to see an account of strawberry culture at the North, as given by the Northwest *Horticulturist*. The conditions prevalent are similar to those along the upper coast of California and the suggestions may be directly useful in this district.

Soils Too Rich for the Strawberry.—The upland clay and loamy soils west of the Cascade mountains, the volcanic ash, soils of the irrigated sections and alluvial black loams of the Palouse are all suitable as strawberry producers. Many of the valley soils west of the Cascade range are rather too rich in nitrogen, causing plants to make leaves and vines, instead of fruit, and should not, therefore, be selected.

The first essential is to pulverize well. Plow several times and subsoil, if possible. A dressing of fresh lime and salt while plowing the ground after harrowing will be helpful to keep out grubs and other insects. Transplanting may be done any time in spring, or early in the fall. For field culture, plants are usually set about 15 inches apart in rows with 4 feet between them. But the more recent practice with some is to set in rows both ways from 2½ to 3 feet apart, Magoon plants should be 3 to 3½ feet apart), so as to admit of cultivation both ways.

How to Plant and Cultivate.—In compact soil a little sand about each plant, thrown into the bottom of the hole made by the dibble, will hasten the growth of young roots materially. No fresh manure should be used in any case whatever.

It is essential in the culture, in order to produce good crops, that the runners of new forming plants be kept from growing just the same as if they were weeds. Early in the spring, if the plants have been mulched, they should be gone over with a rake, and the mulch all removed from the crown or center; as soon as the ground is in condition to work, all between the rows and among the plants should be spaded or plowed as deeply as possible. All weeds should be kept down, and just before the fruit commences to ripen a layer of straw or fresh-mown grass should be placed along just under the foliage and around the plants for the purpose of keeping the fruit clean.

After the crop has matured, if plants are wanted, the ground should be again dug or plowed and the

mulch renewed, when an abundance of new plants from runners will soon form. If in the garden, and another year's crop is to be provided for, then a light dressing of well-rotted manure should be dug in, and during the remainder of the season all runners prevented from growing and the weeds kept down.

Field Work.—For field crops, if the plantation has borne but one year, then go through between the rows and plow deep, leaving only the hills or narrow rows; smooth down with the one-horse harrow or cultivator, and then from time to time go through with the cultivator, to keep down all weeds and runners. If the plantation has borne two crops, then give a dressing of well-rotted manure along between the rows; plow deep, harrow down smooth, and let the runners or new plants form along into it, being careful to keep down weeds.

The new plants will all be formed by September, when the plow may again be used and the rows of old plants turned under, leaving the new plants for the next crop. The most successful growers practice taking but one crop from a plantation. In so doing, they plant in spring, permit the runners to grow as they please, but keep down all weeds, and the ground thoroughly cultivated. The crop is made the second season, and then the plantation destroyed.

The Lemon Industry in San Diego.

By R. C. ALLEN at a "Lemon Meeting" of the Chamber of Commerce at San Diego.

It is now something over ten years since we began planting on a large scale and on the whole we have reason to be gratified with the progress made. Of course there have been mistakes, but we cannot expect to acquire in a year the experience which it has taken the Sicilians centuries to learn. Indeed we may be said only to have made a good beginning.

Varieties.—In methods of irrigation and the amount of water needed we know more than we did; also the varieties of lemons best adapted to our locality. The experience of the past and present seasons show that the tree will stand an astonishing amount of drought without injury—very much more than the orange tree. In the matter of varieties a carefully tabulated monthly weighing in of the fruit as picked shows conclusively that the Villafranca produces the most summer fruit, with the Eureka a close second, and either of these varieties is better for this district than the Lisbon, which seems to have the preference in the interior valleys.

Scales.—A few years ago it seemed as if the scale bugs, which infest all neglected orchards in the coast districts, might prove an insurmountable obstacle to our success. On your orchards spray washes can be used effectively, but as the trees increase in size it finally becomes practically impossible to do thorough work. Fortunately the process of fumigation with hydrocyanic acid gas has been so cheapened of late years as to be within the reach of every successful orchardist, and it is probably not too much to say that no orchardist will be successful who neglects its use, for growing dirty fruit is a hopeless groping in the dark. The difference between success and failure will frequently be found right in this matter of the cleanliness of the orchard.

Pruning.—Another departure in which great progress has been made is in the pruning of the trees. The new method, now in vogue, is that of cutting out the centers of the tree in the goblet shape. While some may have carried this system to an extreme, the main thought embodied in it has great value. As the lemon tree requires picking twelve times a year, it becomes a matter of the first importance in economy of work to grow a compact tree giving the maximum of fruit-bearing surface to the smallest size compatible with health and vigor. All possible fruit must be grown so that it can be picked from the ground without stepladders. Not only is it desirable to let the side growth come to the ground for the sake of the fruit which can be easily picked, but because the shading of the trunk and the ground immediately about it adds to the health and thriftiness of the tree. A great deal of valuable experience is being gained in this direction and we shall doubtless settle down on what is to be the most satisfactory shape.

Storage.—The experience of the past ten years in the matter of holding winter lemons for the summer market has been instructive but not conclusive. Some remarkably successful trials have been made, but the general feeling is not as favorable towards that policy as formerly. As a rule shippers consider the risk of decay too great and find it safer and more profitable to market their lemons as soon as they are ready for shipment, for it is undoubtedly a fact that the attempt to hold lemons up to the extreme limit and then shipping them East across the desert in the heat of summer has given our fruit a bad name in some markets. In consequence some Eastern handlers claim that they will not hold up alongside the foreign product, when in fact the cause of trouble was the treatment at this end of the line. There is no ground for believing that the natural keeping qualities of lemons grown in California are inferior to the Sicilian fruit. I received a letter recently, written on June 30, from a broker in Wisconsin through whom I sold a car, shipped February 4, saying that a part of this carload is still left and in good condition. This fruit was picked in December and was thus over six months old and nearly five months packed at the time the letter was written. It is not uncommon to hold the fruit even longer than this in curing houses here, but that this fruit kept so long after being packed would tend to show that the lemons sent on in the winter would keep equally well with the foreign fruit.

Citric Acid.—We are fortunate to have located in our midst the only citric acid factory in the State—if we except the small one belonging to Mr. McNally on his ranch near Los Angeles, which is understood to be simply for use in working up the product of his own ranch. The factory at National City is a very complete one, backed by ample capital to demonstrate the possibilities of the industry as a means profitably to work up the waste product of our orchards. The prospect is encouraging and there is every reason to hope for a successful outcome. The oil is also produced at this factory, and is thought to be of superior quality to most of the imported article. While it is doubtful if the business will ever justify the payment of over $5 per ton for cull lemons at the factory, still even that is a help, not only in the direct amount received, but in keeping off the market a lot of low-grade fruit, which, while it yields little or nothing to the shipper, displaces so much good fruit which could have been sold at a profit.

By-products of the Lemon.—The manufacture of Cream of Lemon soap, which has been conducted here in the city for the past two or three years, illustrates another form of by-product which may probably be extended to considerable proportions. The detergent properties of lemons are well known, being remarkable in that they at the same time remove dirt and leave the skin soft and smooth. The lemon, therefore, makes a perfect basis for a toilet article. When in Boston last summer I was surprised and pleased to find in one of the principal drug stores an entire table devoted to a display of San Diego Cream of Lemon.

Another local product which promises well is preserved lemon juice. This is put up to keep indefinitely and while not as palatable for lemonade as the fresh juice yet has a great field in the mining camps and on ship board.

Acreage.—At the present time San Diego county contains something like two-fifths of the entire acreage in the State devoted to the lemon. When the water systems at present in process of construction shall be completed much land of the best quality will be available to increase this acreage, and as the conditions here are more favorable than perhaps anywhere else, when the question of frost is considered, it is more than probable that we shall soon be growing a full half of the State's acreage.

Deciduous Fruits for the South.

By F. AUSTIN of Fallbrook at the San Diego County Horticultural Society at Escondido.

The past and present dry seasons have somewhat changed my opinion in regard to the outlook for deciduous fruits. For several years that I have been engaged in producing deciduous fruits in San Diego county I have been of the opinion that most varieties of deciduous fruits had a bright outlook in most localities, under the natural conditions with proper treatment.

Water Needed.—I now hold, with the exception of some favored spots and varieties, the coast valleys and slopes require water for irrigation in order to insure a bright outlook for deciduous fruits. Nothing in the line of products has a bright outlook that does not furnish revenue, and in order to insure a reasonable revenue from your deciduous orchards, in the first place, measure your water, then plant your orchard accordingly. With an experience of cultivating and pruning we can produce large, thrifty trees that will yield big crops of an excellent quality of fruit that will demand the largest prices in the markets of the world. It is not necessary to go into details with this matter. It is too well understood that water is the only solvent for plant food, and must be applied either naturally or artificially before the tree can take on its nutriment. In our locality if we depend on the natural rainfall to furnish moisture for the plant, we frequently find that when needed most our fruits are starving, and that like any other starved thing is worthless, while with water judiciously applied an annual crop of marketable fruit may reasonably be expected.

Drying and Canning.—Those who profit best from the deciduous orchards are those who are located in the large producing districts, where they have the advantage of both drying and canning establishments. We are not producing deciduous fruits in this county as yet to justify the construction of an up-to-date cannery. And right here I want to say that when we commence to produce deciduous fruits in large quantities and of the best qualities we will then have the opportunity to market our apricots, peaches, plums and pears. When we can furnish deciduous fruits of an equal quality with our northern producers, then we will receive an equal consideration for our products, and this can be done by the proper use of water.

At the State Fruit Growers' Convention held in Los Angeles during the month of April, 1898, the question was asked why the northern canneries paid from $30 to $45 a ton for peaches and the southern canneries paid from $7 to $15. After a thorough discussion it was fairly decided that the difference in price was paid owing to the difference in the quality of the fruit—and this northern fruit is grown by turning on the water when needed. As to the effect on the quality of deciduous fruits, like all other good things, irrigation may be overdone and bad results follow. Excessive use of water may produce fruit lacking flavor and with poor keeping and shipping qualities. This would be improper irrigation. So far as I know, canners do not object to irrigation. Their best and largest peaches are secured by the use of water, and my contention is that irrigation would convert many non-paying orchards into profitable property by bringing their products to marketable size. Under these conditions the outlook is good for deciduous fruits.

Varieties.—Varieties that are best adapted to this section under the natural conditions are the walnut, almond, Keifer pear, loquat, Kelsey plum, and the grape. We have been of the opinion, and I think it quite general, that the walnut must have certain conditions of soil and locality, or it is useless to plant it, such as we find along the river bottoms, as we term black sand, of great depth, free from stratas of clay or hardpan, with sub-irrigation. Without these conditions it was useless to plant the walnut. Occasionally we find walnuts that have been planted on the hilltops, along the slopes, and in fact in nearly all places where other trees have been planted. The first few years they made but little growth, but always remaining healthy for a fresh start in the spring. Trees now ranging from eight to twelve years in orchard are moving along nicely, heavily ladened with their fruits and with a perfect foliage. The almonds are doing nicely this year in all of the coast regions and are fairly well provided with nuts. The Keifer pear is acting just as in former years, growing plenty of wood and an abundance of fruit. The Japanese varieties of plums are doing fairly well this season, especially the loquat and Kelsey, that never-failing plum—the plum we have not given the credit it is entitled to. We have frequently objected to it for the reason, and the only one, that it produced too much fruit of too good a quality and thrives well under all conditions. When we come to learn more about this plum we will certainly have more love and respect for it. It is a splendid canner and good drier, and we are shipping more pounds of the Kelsey plum, green, to the Eastern markets from this State than of all other varieties combined.

The grape is well calculated for this region of country; it thrives well and produces well in nearly all localities, and I am looking forward to see all of the land not available to irrigation to be planted with the varieties. With these conditions San Diego county coast valleys have a bright outlook for producing deciduous fruits.

THE DAIRY.

Milk, and How the Cow Makes It.

By A. B. WHITE, Echo Glen Jersey Ranch, Los Angeles, at the Southern California Dairy Convention.

The making of milk inside the cow is one of the most wonderful operations in nature. An average quart of milk weighs 2.2 pounds and contains about 85% of water, 3.8% of fat, 3.8% of casein, 5% of milk sugar and 1% of ash. Of these ingredients only the sugar, fat, casein and ash are of great value as food. They are called "solids" and comprise about one-seventh of the milk. Of these the fat is the most valuable and has become the standard of value, and in our city milk trade if it does not contain 3% of fat—that is, 3 pounds in each 100 pounds of milk, it is below standard and condemned. Milk has no fixed quality, but varies; no two milkings are precisely the same.

Difference in Cows.—Some cows always give poor milk and some always rich milk, and yet the poor and rich milk varies. Change of climate and food, sudden fright, harsh treatment, strange surroundings, greatly decrease the secretions. Cows of true dairy form are keenly sensitive, and never do their best unless their likes and dislikes, tastes and capacities are consulted and gratified. Fats may be increased or diminished by food and other conditions, yet there is a limit in every cow beyond which the kind or quantity of food cannot force her. Every cow has her limit fixed by inheritance, and, if your cow gives watery milk, change the breed as well as the feed, for the feed can develop the dairy function, but cannot change or create hereditary traits.

The Udder.—The udder of a cow is a very important organ, in which she secretes and filters the milk. It is her reservoir in which she mixes and filters it, into which she deposits her rich treasures. It is a complicated combination of tissues controlled by a complex system of nerves, and composed of glands,

ducts, secreting cells, veins and arteries, and is a reddish-gray mass of spongy texture. All this vast network is under the sway and control of the nervous force. The milk is made in the udder; maternal instincts begin the secretions and true milk appears after parturition. That which fills the arteries of the uterus to the fœtus now fills the arteries of the udder and is filtered into pure milk, and the activity of the udder is greatly stimulated and increased in size, and a sucking calf or the pressure of the hand starts the flow of milk as easily and naturally as the working of the jaws starts the saliva or the smell or thought of a good dinner makes the "mouth water."

The cow plays an important part in creating and mixing the milk and in yielding up the rich stores deposited in the milk. Her mind and will power are alert and can more or less control the withdrawal of the milk and "hold it up," but the secretion must take place, though restricted; she can shrink the flow, but the secretions are involuntary, like the act of breathing and the circulation of the blood. The nervous organization of the cow is a most important factor in making and ejecting the milk and overcoming disturbing influences.

The most valuable cows are those in which the powers of digestion, nutrition and secretion are most highly developed by nervous energy or vital force. Nervousness and nerve energy are different and distinct things; one is weakness, the other is power; a man of nerve and a nervous man are just the reverse—one has power, self-control and is ready for action, the other is weak, easily irritated and excited. Milk is secreted from the blood, and the amount of it is dependent upon the amount of blood passing through the udder and the vigor of the circulation. The secretion of butter fat is a distinct process, and, other things being equal, will be largest in the cow having the highest nervous organization; she will excel the cow with phlegmatic nervous temperament by her side. The one lays on no fat, but puts it into the pail; the other lays on fat and gives thin milk.

Educating the Cow.

D. H. Otis writes that the Kansas State Agricultural College has been experimenting along the line of educating scrub cows. At present these cows present a sharp contrast both in appearance and performance to the time they first entered college. Their education has consisted of the application of scientific principles to their feed and care.

On entering college they would eat a little whole corn and seemed to relish a straw stack, but had to be taught to eat meal and alfalfa. The first month the best cow yielded 28 8 pounds butter fat, the second month 32 8 pounds, and the third month 37.1 pounds. During the twelve months she produced 383.7 pounds butter fat (451 pounds butter). Valuing skim milk at 15 cents per 100 pounds, she yielded $73 17 worth of dairy products. But the value of her education does not all show in the first year, for during that time her digestive apparatus, her udder and her ability to convert feed into milk have undergone a course of development, which is shown by the fact that the first month of the second year's record shows a credit of 44 8 pounds butter fat, an increase of 21% over the best month of last year.

The encouraging feature about the cow's education is that it is the kind that any farmer can give his cows at home on the farm. Unlike the young men and women at the college, the cow does not get her training directly from books, but she does it by her owner having a sufficient knowledge of books to apply scientific principles to practical feeding, and the man who ignores books, bulletins and papers as a potent factor in increasing the contents of his pocketbook is ignorant of one of the prime elements of success. There is no doubt but what experience is the best teacher, but the experience of two men is better than one, and likewise the experience of a large number of the most successful men in any industry is worth a thousand fold more than one self-conceited man who thinks he knows it all. First educate the man; then it will be possible to educate the cow.

The best cow owned by the Kansas Agricultural College gave last year 9116 pounds of milk and 383 7 pounds of butter fat. The value of the products for the year was $73 17. For the best month last year she save 977 pounds of milk and 37.12 pounds of butter fat. For the first month of this year her milk yield was 1250.1 pounds, which made 44 89 pounds of butter fat. This is an improvement over her best month last year of 273 pounds of milk and 7.77 pounds of butter fat, or 21%. Such gains show what can be done by feed and care, and if the farmers will pay more attention to this part of the work they will realize more from their cows.

SHEEP AND WOOL.

South African Angoras for California.

Those interested in the breeding of Angora goats will find pleasure, says the San Jose *Mercury*, in a visit to the premises of C. P. Bailey, where will be found a small but exceptionally handsome flock of Angora goats, one of the finest of which has just been imported from South Africa.

Prior to 1893 no Angora goats had been imported into the United States for more than fifteen years, and Mr. Bailey, appreciating the need of new blood in this country, obtained two bucks from South Africa. The result was satisfactory. They changed the blood in his flocks and improved the fineness and thickness of the fleeces, as well as strengthened the bone and form of the animals.

Encouraged by his first attempt and wishing to get more strength in certain points as well as new blood for his goats, Mr. Bailey recently ordered a prize buck which should fulfill these requirements, regardless of cost, from one of the leading breeders of South Africa.

The buck was shipped June 10th last and arrived at San Jose August 10th, having made the trip from South Africa via Southampton, Hamburg and New York in sixty days. The express charges alone amounted to over $160.

Cape Town, whose register number is 017, is a clear-cut, squarely built animal, comp'etely covered with fine, long hair, carrying its weight and luster well to the point, very free from noils and kemp and containing some oil, which Mr. Bailey thinks will be desirable for the dryer climates.

Cape Town's sire, Acme, register number 8, is one of the best bucks living. He won the champion cup at the Grahamtown fair last year and combines a weight of fleece and fineness of fiber rarely seen in an old buck. The register report on his dam, Curley, No. 204, is: "This young doe is splendidly covered with a grand fleece of ringlets—good length, luster and weight, and of excellent quality—a good all round goat."

Cape Town is two years old and is carrying a ten months' fleece which will probably weigh twelve pounds. He is lively, in good health and none the worse for his long voyage.

Mr. Bailey has exported nearly thirty goats to South Africa, and he has goats which will shear fully as much as this one, yet the change in blood, together with some detail points, which Cape Town possesses, will add to the general tone of his flocks. He will be sent to Mr. Bailey's Monterey county farm.

THE STOCK YARD.

Cutting Time and Feeding Value of Alfalfa.

For the past five years the Utah Experiment Station has been carrying on a line of investigation to determine at just what time in its growth alfalfa should be cut for best results—composition, annual yield per acre and feeding value all being taken into account. In connection with this work, the feeding value of such well-known roughage crops as timothy hay, corn fodder and red clover has been compared with that of alfalfa.

For this experiment a field of alfalfa was divided into three equal pieces, one being regularly cut when the first blooms appeared, the second when in full bloom and the third when half the blossoms had fallen—these being denominated early, medium and late cuttings, respectively. Incidentally, there was made a comparison of the first, second and third crops.

The details of this investigation are reported in Bulletin No. 61 of the Utah Station, a copy of which may be obtained by addressing the director at Logan. Below are given the more important facts, together with the conclusions that may be legitimately drawn from the results:

1. The largest annual yield of hay per acre is obtained by the method of early cutting and the lowest by the late, the average result standing as follows: Early cutting 100, medium 92 and late 85.

2. The early cut alfalfa contains the highest per cent of protein and fat, the most valuable food constituents and the lowest per cent of crude fiber—the most indigestible portion. The former decrease constantly, while the latter increases rapidly from early bloom to the full maturity of the plant.

3. The proportionate amount of leaves to stems is greater at early bloom than at any subsequent time, and both leaves and stems contain a greater per cent of protein and a less per cent of crude fiber at this time than at any later period in the growth of the plant. The relative proportion of leaves to stems in the different cuttings is as follows: Early 42 to 58, medium 40 to 60, late 33 to 67.

4. Alfalfa leaves as compared with stems are very much richer in protein, fat and nitrogen free extract, and they contain a much smaller proportion of crude fiber. The per cent of the protein and fat grows constantly less and that of the crude fiber greater from the time of early bloom to maturity. The average composition of all cuttings and crops shows the leaves to contain 150% more protein than the stems, 300% more fat, 35% more nitrogen free extract and 256% less crude fiber.

5. The more important nutrients—protein and fat—have the highest per cent of digestibility in the early cuttings, and it grows less and less with the age of the plant.

6. In the feeding tests the highest gains were made from the early cuttings and the lowest from the late, the results standing as follows: Early cutting 100, medium 85 and late 75.

7. The variation in the amount of the different cuttings eaten per day was very slight, being the highest for the early cutting and the lowest for the late, but the quantity of dry matter and also of digestible matter required for a pound of gain was decidedly lowest for the early cutting and highest for the late, the relative amounts of dry matter standing as follows: Early cutting 100, medium 131 and late 166.

8. The annual beef product per acre was largest from the early cuttings, not only in the general average, but in each separate season's test, and that from the late cuttings was smallest, the proportional products standing as follows: Early cutting 100, medium 79½ and late 69½.

9. Taking all points of comparison into consideration, both separately and collectively, including everything that pertains to the largest yield and highest feeding value, the tests favor cutting alfalfa for cattle feeding when the first blooms appear.

CROP COMPARISON.

10. The first crop gave the largest yield in each of the five tests and in fourteen out of the fifteen cuttings, while the third crop gave the lowest for every test and in every cutting but one. The average acre yields for the five years, including all cuttings, stand in the following relation: First crop 100, second 78 and third 39; for the early cuttings alone, first crop 100, second 85 and third 66.

11. In the average composition of all cuttings for three years the nutrients of the three crops vary but little. The second has slightly the highest per cent of protein and fiber, and the third the most fat and nitrogen free extract.

12. The third crop has the largest proportion of leaves to stems; but the per cent of protein in the leaves is highest in the second crop and next highest in the first. The leaves of the first crop contain the most fat and of the second the least.

13. The third crop produced a higher average rate of gain in the feeding tests than the first or second and also higher than any of the separate cuttings. The amount eaten daily was also highest of all, but the dry matter and digestible matter for a pound of gain were the lowest. In a pound per pound comparison the gains stand as follows: First crop 100, second 81, third 126; dry matter for a pound of gain, first crop 100, second 115 and third 69.

14. The beef product per acre, taking the average result of all cuttings for the five years, was very much the highest for the first crop and decidedly the lowest for the third, standing as follows: First crop 100, second 61 and third 45; but taking the early cuttings alone, they stand, first crop 100, second 80 and third 69.

15. Pound per pound, taken as a whole, the results show the highest feeding value for the third crop and the lowest for the second.

16. The average annual beef product from early-cut alfalfa was 705 61 pounds per acre. It required 9575 pounds of timothy to produce an equal weight, 11,967 pounds of red clover and 10,083 pounds of shredded corn fodder.

Growing Broom Corn.

To the Editor:—I see in the Pacific Rural Press of August 19, 1899, a note on broom corn growing. It takes good, strong land and damp land, through irrigation or otherwise, to successfully raise broom corn. Do not have your corn too thin; plant in drills 4 feet between rows. If too thick thin out some, but if cultivated well it will grow pretty thick in the row. When it begins to bloom and about the time the seed begins to form is a good time to cut your brush. Put it in piles of from twenty to thirty pounds green corn in a pile, until the sap is dried out. Then pick up the small piles, lay on a wagon or truck and bulk it in the field or where you wish to take off the seed. Cover it up from the sun and it will remain a green color, and by carefully piling in small bunches at first it will be straight. This process makes the finest brush and best for market. If grown too thin in the row the brush will be too coarse.

L. N. Gregory.

Hanford, Cal.

It is reported from Chicago that Western country banks have all the money they can profitably handle, besides having large balances in Chicago and New York. Western bankers are the lenders in Eastern markets and they can still remain so after moving the crops. The letters received indicate that the farmers generally in the States named are in a flourishing condition, and are counting on another prosperous year. They are in such shape that they can sell their grain if there is a good cash demand and can hold it if prices do not suit.

It is announced that the new beet sugar factory near Santa Maria will only run six months this season. In the Santa Maria valley there is only half a crop and two-thirds of a crop in the Arroyo Grande valley. In many places in the Santa Maria valley the beet crop will not be harvested, as it will not pay for the work.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

HOP PICKING MACHINE.—Pleasanton *Times*, Aug. 26: For years James Mendenhall of Pleasanton has been working upon a machine for picking hops, but up to this year has not been entirely successful. He now has a machine with which he can do the work of ten men. It takes two men to run it, and it is claimed that the hops come out as clean as if picked by hand.

SMOTHERED SHEEP. — Seventy-five sheep were the victims of a dog at Haywards Sunday and Rod Fallon of Pleasanton is about $300 out of pocket in consequence. He did not reach Haywards until too late to turn the sheep over to the purchasers and get his pay, so he turned them into a yard. During the night a strange dog entered the enclosure and worried them. They crowded into a corner so densely that seventy were smothered and crushed to death. Butchers say that the accident is the first of the kind they have known.

Butte.

FIGS AT OROVILLE.—*Register*: We have as big fig trees as any locality in the State, and the figs are delicious; but somehow people do not take much interest in this fruit. Judge Gray, Jas. Leggett, Mr. Moncure and others who had a large number of trees have fully realized they paid handsomely. At 3½ cents a pound, and that is the lowest price paid this summer, it takes but a limited number of trees to bring a round sum.

DEPRECIATION IN WHEAT LANDS.—*Bee*, Aug. 29: Assessor A. E. Morton and Deputy Assessor A. M. Smith of Butte county, appeared before the State Board of Equalization this afternoon in answer to a citation calling on them to show why it was that property values in Butte had fallen off about $740,000 during the past year. The explanation was that the reduction was almost altogether in wheat lands, which were not worth nearly so much as they once were. Assessor Morton stated that wheat land that a year ago was assessed for $50 an acre had since been sold for $22.50, and the owners were glad to get that price.

IRRIGATED PEACHES.—Biggs *Argus*, Aug. 26: The *Argus* received some Susquehanna peaches this week grown on the Rio Bonito Orchard Co.'s orchard, in charge of Miss Sarah Bates, on trees that have been systematically irrigated this year, which, compared with other fruit of same variety grown upon the same orchard without irrigation, establishes the indubitable fact that irrigation is invaluable in fruit culture, in this country especially, in comparatively dry years. The peaches are unusually large, succulent and of excellent flavor, while the same variety not irrigated are imperfect in size, beauty and flavor.

Colusa.

THE ASSESSMENT.—*Bee*, Aug. 29: Before the State Board of Equalization, Mr. Hardin claimed that if the property of the county were assessed for its actual cash value, it would be reduced at least $1,500,000 from the present roll. The period of depression in Colusa county began in 1893. In March of that year there were lots of sheep on the hills and lots of wheat in the warehouses, but since then there had been a general decline. Mules that were worth $300 a span were now worth about $60, and sheep raising had become unprofitable. In answer to a question from Equalizer Beamer, Assessor Hardin said that the outlook for an increase on the personal property roll next year was excellent, as all crops were looking well. During the preceding year, however, crops had been very bad, and in some instances stock had been killed to save feed.

SQUIRREL BOUNTY.—*Sun*: On August 20th of last year the Board of Supervisors by ordinance proclaimed that they would pay 2½ cents for each and every squirrel tail presented to proper officer of the county, and during the year just ending, a total of 33,252 tails have been paid for at the rate of 2½ cents each, making a total of $831.31. This extermination has been a matter of sport and pastime with some, while others have made it a business, two men alone killing of the above lot 21,539. During the time mentioned 183 coyotes have been killed, for which the county pays $2.50 each, making $457.50 paid out for scalps and a total of $1,288.81 for tails and scalps during the year.

Kings.

CHICKEN ENTERPRISE.—*Journal*: The people interested in the forming of a company in Hanford to go into the chicken business on a large scale, met at the office of W. L. McGuire and incorporated the Hanford Poultry Company, with a capital stock of $10,000, and $9000 actually subscribed. The stockholders are: Mrs. Minnie Melone Crawford, W. A. Crawford, J. O. Hickman, D. P. McCord, Harry Widmer, George Kelly and B. L. Barney. It is the intention of the company to go into the chicken business on the Melone prune orchard of twelve acres, near Hanford, and, to start with, the company has purchased $2000 worth of chickens.

Los Angeles.

A GOOD PLUM.—Pomona *Times*, Aug. 23: The Wickson plum is simply delicious. In fact, of the many good plums grown, we believe the Wickson the best. We had the pleasure of sampling a few presented by Foreman Mills, grown on the Experiment Station. This plum is worth much to the State and to this community, where it will flourish well, as proven at the Experiment Station. Its flesh is thick and pit very small —both items of value. Mr. Mills assures us that it may be picked while hard and that it will ripen and color perfectly.

SEWAGE FARMING.—Pasadena *News*: The farm has been owned and managed by the city for seven years. This year's crop is thus reported: About 100 tons of alfalfa hay have been sold loose in the field to a Pomona party at $6 per ton. About 200 tons of barley hay have been grown and sold or stored, so there is no more for sale. About thirty tons are being delivered to the street and fire departments. Some has been sold at $14 per ton. The English walnut crop looks extra fine. Last year these ninety acres of seven-year-old trees yielded $991 worth of walnuts. This year the prospect is that the yield will be nearly doubled. The eucalyptus grove is to be thinned out. From 150 to 200 cords of wood was recently sold to a Los Angeles party who is cutting it. He pays the city $3 per cord on the stump. A nice pen of thirty-five hogs was increased by the arrival of twenty-five pigs, but the coyotes got five. Altogether, the productions of the sewer farm ought to yield the city between $4000 and $5000. Last year the total receipts were $3029 and the cost $2391. The farm has now reached a point where it is yielding rich returns. The average daily flow is from 25 to 35 inches. To show the unobjectionable character of sewage, it may be said that tramps coming along the road in the morning wash with and drink that sewer water, evidently not knowing where it comes from.

BELGIAN HARES.—Pasadena *Star*: Miller & Richardson have taken to the breeding of Belgian hares, and they have just received from England direct the celebrated buck, Duke of Westminster, born Dec. 21, 1898, weight twelve pounds, value $300; the fine buck, Earle Detrafford, three months old, value $150; Lady De Molpos, sire Le Wizard, dam Lady Gore, value $130; Lady Julia, Lady Lizzie and Lady Florence and a litter of eight born July 5th on the way over, sire Our Billy, dam Lady Cholmondley. The latter is also owned by Miller & Richardson, but will be left in New York for two months yet. She is valued at $300. Miller & Richardson expect to engage in the business, not very extensively, but to carry the finest stock of Belgian hares in America, owning nothing but the highest pedigreed stock.

Monterey.

THE BEET CROP.— Castroville *Enterprise*, Aug. 25: The beet growers have been notified to begin the hauling of beets next Monday, and continue the same to the close of the campaign. A great many of the beets have not reached their full size and as a consequence the expected average yield will be somewhat lowered; in fact, so we are informed, the yield will in no case be as heavy as at first confidently expected. The best fields will not produce over fourteen or fifteen tons to the acre. At least eight tons per acre will be required to pay expenses.

Sacramento.

THE FLORIN TOKAYS.—*Bee*, Aug. 28: The statement in the Crop Bulletin of last week that the cool weather has retarded the development of Tokays, does not apply to this district, by any means. Frank Robinson, a leading fruit grower and authority in anything pertaining to the Tokay, says: "The fact is, this is just the correct weather for the Tokays. They are coloring better this year than for years past, and are larger, though it is a well known fact that when the temperature is below the normal at this time of year we cannot produce a sweet Tokay. A little warm weather is necessary, for, without the 'sweetness,' the Tokay is not perfect."

ENGINE EXPLOSION.—A threshing engine blew up near Folsom last Wednesday and severely injured the fireman, Harry Erickson. Erickson was feeding straw into the engine when the accident occurred and was blown a considerable distance. Medical aid was summoned, and the injured man is said to be getting along very nicely. The engine belonged to Thomas Orr, and was in use on the Dormody place when the accident occurred. An examination of the interior of the boiler showed that the engine had long been unfit for use. So great was the force of the explosion that the wheels of the engine were driven deep into the ground and pieces of iron were hurled many feet. It is considered strange that no one was killed.

San Bernardino.

THE BEET HARVEST.—*Champion*: Beet harvest on the Chino ranch commenced Wednesday morning, and hundreds of tons have already been delivered from the fields here. Yesterday noon the first beets came in from Orange county, and to-day the first trainload will arrive from Oxnard in Ventura county. On Monday morning the force of employes came in from all directions, in response to notices from the company, and were assigned to their different stations about the factory. The labor roll of the factory comprises 336 men, exclusive of department heads, foremen, clerks and all salaried men. It is said by the management that they have a better class of men this year than ever before. Many of them are farmers and farmers' sons, who have come in to work during the campaign while work on the ranch is scarce.

San Luis Obispo.

THRESHERS SCARCE.—*Breeze*: Hundreds of farmers in the north coast section of San Luis Obispo county are without threshers. Their grain is in the stack, idle, and unless some assistance is given them soon it will doubtless be in the same condition — unthreshed—when the fall rain begins. This condition has been brought about by the change of the farms from dairy ranches to grain ranches. Last year most of the farms in that locality were dairy places, but on account of a bad year the stock could not be kept and was sold. This year the farmers put all of their land into grain, and the harvest in many cases has proved almost twice as heavy as had been expected. The grain is ready and waiting to be threshed, but the one thresher cannot begin to do the work which is demanded by the farmers.

San Joaquin.

PASSING OF THE LODI MELON. — *Sentinel*, Aug. 26: The Lodi watermelon, famed far and wide up and down the coast has run its race and is slowly but surely passing into a sweet reminiscence. A few men early in the melon fever—for it amounted almost to that—made considerable money out of large acreages and good crops, this region having a monopoly of the business. Melons from the south were looked on with suspicion then. It is different now. At the close of the season nearly every melon of any size was cut open and the seed saved. Good seed was worth 50 cents per pound and found a ready market. A few years ago it was noticed that the once famous Lodi melon was losing vitality. Beyond a doubt the seed had run out. The industry had been overdone and growers grew less with each succeeding season. It was also noticed that the Fresno watermelon—the big, dark green and striped kind—was supplanting its lighter colored rival. Then they were several weeks earlier, too. Gradually the change in seed was made until now nearly all the melons raised here are of the southern brand, either the Cuban Queen or the Rattlesnake. The old melon is almost gone forever. It is claimed that the dark melons grow larger and stand harder knocks in shipping.

THE BEAN CROP.—Stockton *Mail*, Aug. 28: The bean crop will be much later than usual on account of the frosts and dry weather in the spring, and the crop will not be as large as had been expected. D. C. Shepherd, who has been investigating the matter, said yesterday that the crop would be at least a third less than usual in the territory tributary to Stockton. As an instance, he cited a fourteen-acre patch on the San Joaquin river, where nine or ten acres were fairly good, but the remainder almost a failure. The reason given is that the beans were often planted at unfavorable times, and the peculiar weather of last spring interfered greatly with their growth. In many cases it was necessary to plant the ground twice, as the vines of the first planting were killed by frost. It will be two or three weeks before the harvest is fairly begun.

THE INVENTION FAILED.—A new sort of car for shipping fruit without ice has been undergoing a test for the past week at Young Brothers' fruit-packing house on Sacramento street, near the Southern Pacific freight depot. The model was filled with assorted fruit a week ago last Saturday, and by means of an air pump a partial vacuum was created, the pump being kept in continuous operation. A Stockton inventor named Hill designed and built the model. He figured that by keeping the air and gases pumped out of the car the fruit could be kept in good condition. It was his intention to utilize the axles of the car wheels while en route to furnish the power for working the pumps in the practical shipping of fruit. By his invitation several persons were present when the car was opened last Saturday evening. Far from being in good condition, however, the fruit was found to be totally unfit for use, which, of course, puts an end to the scheme. Frank Covey has been working upon a similar contrivance.

Santa Barbara.

THE BEAN BUSINESS.—Santa Barbara Cor. Los Angeles *Express*: The indications point to a decrease in the acreage in the bean crop in Ventura and Santa Barbara counties. This condition arises from two factors. First, that many bean growers have planted barley and sugar beets, trusting that their acres so planted will yield an income; and, secondly, that the continued dry weather will cause a less quantity to be harvested. The bean fields look healthy at this date. They are, however, at a critical stage in the coast sections, as they are filling out and need much moisture. Rain would work wonders, but if the fogs are continuous and the days remain cool for two weeks longer the present favorable conditions for the beans that are planted will be greatly enhanced. No one hazards a guess as to the acreage, nor as to the bean yield for this year. Dixie Thompson has been regarded as one of the heaviest bean growers in this part of the State, but he stated that his 2500-acre ranch has this year been put into barley, for hay and for threshing. In former seasons this large acreage was exclusively devoted to bean culture. Other bean growers and ranchers say that the acreage for beans is 50% less than in former periods. In the face of these conditions the growers are holding their old stock and at present manifest no desire to enter into any contracts for future delivery. Those who have cultivated small patches of beans—and nearly every rancher has planted some for his own use — may have a surplus, and in cases where these are less than carload lots the beans will early pass into the hands of those who will purchase for a future market. Four years ago Santa Barbara county claimed that she produced in an average season almost 7000 tons of beans, but from the closest examination and from the best obtainable information, I am forced to the conclusion that Santa Barbara county will not this year show a yield of 300 tons. The county of Ventura will also tabulate a reduced bean acreage. This condition arises from causes that are well understood and that have prevailed in southern California for the past two seasons. The ranchers have directed their attention to other crops, and are no longer depending exclusively upon one variety of produce as a leader, but have been forced to rotate harvests or to substitute others equally as profitable.

Shasta.

A NEW GRASS.—Fall River *Tidings*, Aug. 25: We were shown this week a sample of a new grass known as "meadow oat grass," which S. T. Eldridge is cultivating at his ranch up in the mountains, he having obtained the seed from an Eastern seed house. In height the grass averages about with timothy, but the stalks and heads are finer, and it is said to be more prolific than timothy, as on good soil it yields between three and four tons per acre. As a stock food, it is said to be excellent, as it contains more nutriment than almost any variety of grass that grows in this country.

Solano.

LABOR.—One of the reasons the Japanese have secured employment recently is the fact that they have persistently underbid all competitors. It is doubtful, however, if this is anything other than a temporary condition. It will be with the Jap as it was with the Chinese. Just as quick as he has fairly learned the fruit business he will be more independent and strike for higher wages. This idea is borne out by conversation with intelligent Japanese. They say that as quick as they learn the business of the orchards and vineyards of California the low-priced Jap will be a non-existant quantity in the rancher's calculations. Ultimately it will be found that the best and most reliable labor is that which lives in the villages adjacent to the orchards, and where families can be secured with each recurring fruit season.

SUGAR BEETS AT CORDELIA.—*X-Ray*: The crop in this vicinity is one of the best in the State. Supt. Herbig, who has had charge of the cultivation here, informs us that the harvesting of the crop will commence in a week or two and that his company has sent word to engage all the help obtainable, as it will require between 200 and 300 men to do the work. There are about 1200 acres sown to beets in this vicinity, about 400 of which are now ready to be harvested.

Sonoma.

A LARGE MADRONE.—Healdsburg *Tribune*, Aug. 21: On a spur of the mountain a few hundred yards below Bourden's strawberry ranch, near Skaggs Springs, stands, if not the largest, one of the largest madrone trees in Sonoma county. The circumference of this tree near the ground is 31 feet 8 inches, and 7 feet above the ground its measurement is 20 feet 4⅓ inches. Not only is it of most unusual size, but its symmetry is most marked and noticeable. At noonday the spread of its branches shades at least a quarter of an acre of ground from the sun's rays. It is a favorite spot of cattle and horses as a protection from the heat of summer and winter rains.

Stanislaus.

FRUIT PULPING.—Modesto *News*: Thomas H. Gray has applied for a patent for pulping fruits. By his process all of the fruits, such as apricots and peaches, will be preserved in pulp and packed for the trade. By the appliances twenty-five tons of fruit can be pitted, skinned, deodorized and packed each day at a cost $26.20. The total cost of the plant is $1800. Mr. Gray's attention was called to the need of something that would save the immense waste of fruit while he was a resident of the lower portion of the State. It was impossible to get enough help to save the crop, so what was left was destroyed. By the process the pulp is cut into blocks and packed, and retains all of the nourishment and can be packed to any point.

Tehama.

SALE OF CATTLE.—Red Bluff *Cause*, Aug. 26: Geo. W. Vestal and Mr. McNear, a San Francisco cattle buyer, were preparing this afternoon for a trip to Butte Meadows. Mr. McNear has purchased 150 head of beef cattle from Mr. Runyon, and Geo. Vestal went up to deliver them to the purchaser. It is said the price paid was 3@3½ cents. Several other purchases have been made in that section.

Tulare.

THE SQUIRREL BOUNTY.—Visalia *Delta*: At the August session of the Tulare County Board of Supervisors claims were presented for about 8000 squirrel tails. The squirrel-tail bounty law has been in effect in this county a little more than two years, and during that period about 535,000 tails have been accounted for, costing the taxpayers nearly $11,000. This bounty law has been a costly experiment, yet it has resulted in great good to the ranchers, and altogether may be considered a profitable expenditure. Thousands upon thousands of squirrels have died in their holes from poison scattered far and wide by the tail hunters. While the total number of tails on which a bounty has been paid is placed at about 535,000, a conservative estimate places the number of exterminated squirrels, under the bounty law, at over 1,000,000. If the bounty law remains in effect a half dozen years, the squirrel pest will be a thing of the past in Tulare county.

Yuba.

HOP NOTES.—Wheatland *Four-Corners*, Aug. 26: The second week of hop picking is past and the end can be seen between broken rows, over two weeks off. The price was started at 80 cents and was raised to 95 this week. Early next week a cent will be paid. The hops are ripening up rapidly and are holding their quality well in the cool weather. The samples already in the bale show up in fair color and have an excellent flavor.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid,** with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

The Message of Peace.

[In 1862 Mrs. Julia Ward Howe stirred the nation with her famous Battle Hymn of the Republic. Thirty-seven years later, at eighty years of age, Mrs. Howe throws the weight of her influence as strongly in favor of peace as in the former days she made it count for war. She has spoken publicly in Boston in behalf of universal peace, and now she addresses a still larger audience in the following poem, written for the Sunday School Times]:

Bid the din of battle cease!
Folded by the wings of fire!
Let your courage conquer peace—
Every gentle heart's desire.

Let the crimson flood retreat!
Blended in the arc of love
Let the flags of nations meet;
Bind the raven, loose the dove.

At the altar that we raise
King and kaiser may bow down;
Warrior knights above their bays
Wear the sacred olive crown.

Blinding passion is subdued,
Men discern their common birth,
God hath made of kindred blood
All the peoples of the earth.

High and holy are the gifts
He has lavished on the race—
Hope that quickens, prayer that lifts,
Honor's meed and beauty's grace.

As in heaven's bright face we look
Let our kindling souls expand;
Let us pledge, on Nature's book,
Heart to heart, and hand to hand.

For the glory that we saw
In the battle-flag unfurled,
Let us read Christ's better law—
Fellowship for all the world!

—Julia Ward Howe.

The Plotters of Peccatone.

The United States cruiser Mohawk had gone into commission at the Washington navy yard, and thence had dropped down the river preparatory to going to sea. There was a prospect of bad weather, and the commanding officer decided to anchor for awhile off the Virginia coast, in order to ride it out. One of the junior officers, Lieutenant Ferry, who was an ardent sportsman, got permission to go ashore to hunt. True, there were clouds rolling up, and there came occasionally, a sound of distant thunder; but this was insufficient to dampen the ardor of a man who loved hunting above everything, and who had before him a cruise of many months, which would cut him off from the indulgence of his favorite pastime. None of his fellow officers cared to accompany him, however, and, as he was going off alone, the commander of the vessel said:

"You'd better take a night signal with you, in case you get into trouble. When you get to looking for game, you'll be sure to forget everything else."

Ferry accepted the signal indifferently, and, dropping it hurriedly into his game bag, gave the captain a cheerful salute as he stepped into the boat which was to take him ashore.

When he had landed and the boat had pushed off, Ferry felt a sense of strange isolation from human contact in the loneliness and silence of that unknown region, with its nine-mile width river and the almost desolated appearance of the land, its uncultivated fields and dense tracts of pine trees, reaching into the vanishing point of limited vision.

Knowing that the ship would not move until next day, the young officer felt no constraint as to time, and, although it was afternoon when he had started out, he wandered on and on in fruitless pursuit of something to shoot at, until he became aware that, almost unknown to him, darkness had come on. As he stood and looked about him, he saw that it was not only the approach of nightfall, but also that a heavy storm was brewing, and the black clouds overhead and low thunder mutterings, which now began, warned him that this storm would be a violent one. He had come back to the shore of the river, in the hope of finding some ducks or water game, and he now found himself at the foot of some tall, steep cliffs, which cut him off from any sight of human habitation, if there should be any such at hand.

As he scrambled to the top of the cliff, he was relieved to see a large, red brick house a short distance from the shore. The storm was coming quickly. Swallows dashed, with strident cries, in swooping flights close to the earth, and the wheat fields, spread about him, rustled with a crisp rattling sound, as the swift gusts of wind swept over the ripening grain. Ferry hurried on, hoping to put the noted Virginia hospitality to the test before the storm should break in violence about him.

As he drew near the house there was every indication that it was tenantless. One of the shutters, opening on the porch, slapped back and forth noisily in the high wind. The circle leading to the front door was in a tangle of weeds, and about the hitching post for horses there was an untouched growth of grass. The first sign of life was the appearance of several small negro children, who dashed, like marionettes, around the side of the house, and then turned and fled, their bare black legs looking like vertical lines set in rapid motion.

Ferry mounted the steps and knocked vigorously at the door. After some delay it was opened cautiously by an old negro woman, who seemed anxious to screen herself behind it, as she peered through the partial opening.

"I am a stranger in this neighborhood," said Ferry, "and have been out hunting and lost my way. May I come in until the storm is over?"

The woman looked, evidently for instructions, toward some one far back in the hall. Then she opened the door wider, and Ferry found himself in a large hall of veritable colonial proportions.

As he took in his surroundings, a striking looking man materialized from out of the darkness, and, coming forward, greeted him civilly and invited him into a room to the left. Ferry noticed that he spoke with an accent, and his swarthy skin and deep, black eyes suggested that he was either Spanish or Italian.

The room was almost bare. Another foreign looking man was seated at a centertable, and, as he rose, the man who had received Ferry said:

"My friend and myself are here at work upon a common interest. We had heard that this old house, known as Peccatone, could be rented for a mere song for a week or so, and we have taken it, to work upon an important patent which we have very nearly perfected. My name is Genori. This is Mr. Heiss."

"And my name is Ferry," said the young officer, prompted by a swift but imperative instinct to conceal his title and profession. "I lost my way in wandering along the river in search of game, and was glad enough to find a house within reach."

He could not wholly account for it, but he was seized with the conviction that these men were suspicious characters. He thought Heiss, the second man, looked frightened, and he was certain that the old colored woman—who had begun to clear the table, as if in preparation for the evening meal—was nervous and uneasy.

"We have only the roughest sort of accommodations to offer you," said Genori, "but we are gald to be able to give you shelter from such a storm."

The rain was now falling in torrents, and the thunder shook the old house and rattled its loose windows, while the wind flapped to and fro the unfastened shutters. This fact gave Genori what Ferry thought was an excuse rather than a reason to leave the room with his companion. The servant had already gone, and Genori explained that they would go and assist her in trying to fasten the shutters and protect the house against the fury of the storm.

Ferry had more than a mere suspicion that they had gone out to hold a conference, and perhaps to give some warning to the old negress.

Left alone, he glanced around the room. Besides the table, it held no furniture except a few old wooden chairs and a dilapidated horse hair lounge, which was disgorging its springs through its many rents. The fireplace was filled with dried asparagus plants, which threw out a visible dust as it was moved by the suction of wind which roared in the chimney. Through the window Ferry cast a glance upon the prospect outside. The river, by reason of the high cliffs, was not visible, but the dark bulging clouds hung low above the earth, and the rain fell in heavy sheets, pierced now and then by vivid lightning.

In a few moments the two men reentered, followed by the old negress, who brought a lamp. The shutters to this room, Ferry observed, were all in good condition. They had no venetian-blind work about them, but were solid as doors, and fitted without even a crack.

During the meal which followed, the young officer took pains to make himself agreeable to his two companions, and as he studiously avoided any further questions or show of interest in their affairs, he felt sure that he had succeeded in disarming the suspicion with which they had evidently regarded him at first. As the storm continued unabated, they insisted that he should spend the night, which he concluded to do. Old Hannah was told to make one of the upper rooms as comfortable as she could for his occupancy, and when she brought him a candle and told him that it was ready, Ferry got up, prepared to follow her, much interested in the hope of extracting some information from her. But, to his disappointment, Genori took the candle from her hand, and dismissing her, said he himself would conduct the stranger to his room. Ferry was almost sure that the old woman looked disappointed. He spoke to her politely, thanking her for her pains, and put a coin into her hand, which was larger than he would have given had he not had a wish to propitate and and please her.

"I may as well take my belongings with me," he said, taking up his cap and game bag to make occasion for taking his gun. Watching Genori, he felt sure that his actions were not agreeable to him, but there was no excuse for his objecting. The two men talked together in a friendly way, until Genori had taken him to his room. Then he wished him a good-night and left him.

This room was better than the one below. Around the wall ran a high wainscoting, painted a dull green. As Ferry, holding his candle, looked at it, a little cloud of dust ran along its top, caused by the scamper of a mouse.

Feeling the house not only weird in itself, but tenanted by some very dubious characters, Ferry would have locked the door; but, on looking, there proved to be no key, and so he had to content himself with putting his gun at the head of his bed. He was soon asleep, but he had a sense of danger that prevented his sleeping very soundly, and after awhile, he was awakened by a very faint sound, which he could not, at first, make out. The next minute it occurred to him that it was the furtive turning of a key in the lock. It was very slowly and cautiously done and he heard no other sound, but, sure enough, when he presently got up and crept noiselessly to the door to verify his suspicion, he found himself a prisoner.

He remained intensely silent for awhile, until he could feel perfectly sure that his captors had withdrawn, and then he lighted his candle. Going to the window he discovered that the rain had ceased and the clouds were clearing away.

It was swift work for a sailor to tie the bedclothes into a stout rope, one end of which he fastened securely to a post of the bed, and to the other end he fastened his gun and bag, and then, blowing out his candle, lowered himself to the ground. He was now sure of escape; but his soldier spirit had scented danger, and he was determined to investigate. The moon had come out, and he could see his way plainly. Seizing his gun and bag, he made for the river, and scrambling down under the shadow of the cliffs, he set fire to his night signal. Then he waited breathlessly, and had the joy of seeing the answering signal from the vessel. It was nearer than he had dared to hope, and the time did not seem very long before he could make out the boat approaching.

He met the men at the foot of the cliff, and, after a brief explanation and consultation, proceeded with them to the cabin in the rear of the house, where he knew old Hannah slept.

If ever the military received prompt civil support, it was now. The old woman, recognizing Ferry, called him her dear young master and called on heaven to bless him, saying she was scared to death of those French talkin' foreigners, and was glad enough to have some decent white folks come along and protect her. A few adroit questions were put by Ferry concerning the men. Hannah declared that it must be the old boy himself who supplied them with money, as they had enough to burn up. She had picked piles of bank notes out of the ashes more than once, and on one occasion had come upon them unexpectedly and found them packing bundles of notes in boxes. She also gave the information that they slept all day and worked all night and that she had always to supply them with a heavy breakfast about daylight.

It being now perfectly evident that the men were counterfeiters, Ferry concluded to make a charge on them without delay; and proceeding to the spot, he quickly forced open the outer door and knocked at the door of the room he had been in last night, Hannah, who crept eagerly after the officer and men, informing them that it was here that they conducted their work.

No answer coming, and this door also being locked, Ferry called out to them to open.

There was no reply, and while two of the sailors stood with pistols cocked, he ordered two more of them to burst open the door. It was promptly done, and the party of men dashed in—to find the room quite empty!

Aghast, they looked about them. The windows were down and the shutters fast. The dry boughs of asparagus were undisturbed in the fireplace.

"Where are they?" ejaculated Ferry. "They must have heard us and fled from the house, locking the door behind them."

"No, da ain't fled from the house," said old Hannah. "Da's safe en soun' in de very heart of it dis minute."

"But where?" said Ferry. "You said they were in this room."

"Whar you come from, young massy?" said the old woman, half contemptuously, "dat you ain' know 'bout Peccatone? Ain' you nevah heerd tell o' we-alls ole house en dem contrapshuns in the chimblys, whar de white folks uster hide when de Injuns come? Lor' massa, whar you bin dat you ain't know nuthin' 't all 'bout Peccatone?" And, walking over to the side of the fireplace, she threw it open, and beckoned to Ferry. On close examination a sliding panel was discovered at the back. This Ferry pushed aside. There was no one there, but a narrow stairway was disclosed.

"It would be ugly work to up up there," said Ferry. "Two of you men guard this opening; the others come with Hannah and me."

Under Hannah's guidance, they proceeded to the attic, where there were evident signs of recent footsteps in the thick dust. Hannah pointed towards the center of the floor, where on examination, a neatly adjusted trap door was discovered.

"They are here!" said Ferry, confidently, and, thumping on the hollow floor, he called out: "Surrender! You are trapped! Put your hands and weapons out, and it will fare better with you!"

There was a moment's pause, then the trap top slowly opened, and first one pistol and then another was handed out.

"Put out both pairs of hands!" com-

manded Ferry, taking the pistols.

Genori's giant hands were thrust through the opening, and then another pair appeared beside them. When they had both been clasped by iron bracelets, Ferry opened the door, and the two men scrambled to the floor of the attic.

Two of the sailors were now ordered to take a light and search the hidden stairway. Genori and his companion stood speechless, their faces livid with rage, as the two sailors brought up and exhibited before them the dies, stamps and other implements of their work, together with a number of rolls of crisp, new bills.

Thus as the Mohawk put back to Washington the next day, it became, unexpectedly, a transport vessel for criminals; and Lieutenant Ferry, although he shot no game on his hunting expedition, received commendatory notice from the President for his prompt and efficient action in the capture of the plotters of Peccatone.—New York Ledger.

The Country Girl's Possibilities.

"Circumstances? I make circumstances," said the great Napoleon. Never before in the world's history was it so easily possible for a girl to make circumstances as it is to-day, and she who can better do this lives, not in the city, but in the country, states a writer in *Farm, Furnace and Factory*. We hear much of the advantages of city life; and it certainly has many advantages. Its libraries, its lectures, its church privileges, its places of desirable amusement, its facilities for shopping and for transportation, are all in its favor. Some of them, at least, are almost indispensable to those who have been chosen by destiny to become doctors, lawyers, authors, journalists and other things requiring special and ever increasing information, amusement which can be had without effort on their own part, and transportation which will not require much time. And the people who have a vocation for these things, by the very nature of their employment, can, without great or long continued effort, create for themselves a social life, by making the acquaintance and winning the friendship of those thrown in their way, many of whom will serve as adequate companions. But the girl who goes a stranger to a strange city to enter a store or shop, or domestic service, or to assume a clerical position, may, as a rule, expect months, perhaps a year or more, of living, which, if it be not tragedy, strongly resembles it. It is quite possible in the country to hire a real home; in the city it is next to impossible. Many country dwellers take people into their homes; make those people, in a majority of cases, members of the family; and regard and treat them as friends, rather than as boarders. In the city this very seldom happens. Indeed, in the city working people do not often board, in the country sense, which means having rooms and meals at the same place. Respectable city boarding houses are far too expensive for the ordinary clerk or store girl, who is obliged to hire a room and obtain her meals where she can get them most reasonably, and not being over-fastidious about the locality; in cities localities count. No one bids her Godspeed in the morning, and at evening no one knows or cares when she reaches her room, or what her feeling may be. Most city lodging houses, should they find tongues, could tell myriads of tales of souls starved for companionship, or of hearts almost broken for want of care and sympathy.

The young woman who relinquishes a position as a domestic in the country to accept a place in the city, makes, it seems to me, the greatest mistake of all. In nearly all country homes the "hired girl" (the word servant or domestic is seldom heard in the country), is, like the boarder, one of the family, eating and sitting and conversing with members of the household; and in the social circles of the place she is not considered lower in the scale than any other working woman of her moral and mental caliber. In the city she is regarded as little different from the rest of the household machinery, and has no social standing whatsoever.

Noblesse Oblige.

. . . Shall I not work?
I, who stand here, in front of human life,
And feel the push of all the heaving past
Straining against my hand? Immortal life,
Eternal, indestructible, the same
In flower and beast and savage,—now in me,—
Urges, and urges to expression new!
Work? Shall I take from those blind laboring years
Their painful fruit, and not contribute now
My share of gifts so easy to our time?

Shall I receive so much, support the weight
Of age-long obligation, and not turn
In sheerest pride and strive to set my mark
A little past the record made before?
Shall it be said: "He took from all the world,
Of its accumulated countless wealth,
As much as he could hold, and never gave!
Spiritless beggar! pauper! parasite!"
Life is not long enough to let me work
As I desire; but all the years will hold
Shall I pour forth. Perhaps it may be mine
To do some deed was never done before,
And clear my obligation to the world.

—Charlotte Perkins Stetson.

Farmers' Boys in College.

Some interesting figures as to the proportion of farmers' boys among college students have been gathered by the *American Agriculturist*. It has returns from 178 universities and colleges, reporting an attendance of 52,000. Out of this total of 52,000, it finds that nearly 21,000 are from the agricultural classes, or a percentage of 40.2 from the farm. This percentage varies largely in different sections of the country. It is 50.9 in the South, 45.8 in the far West, 40.1 in the central West, 29.4 in the Middle States, and 29.1 in New England. "In no other nation will any such condition be found," comments the *Agriculturist*. "It is a wonderful tribute to the general intelligence of our American farmers' families, and to the high hopes and deep aspirations of their sons and daughters. This exhibit adds mightily to the dignity of agriculture, at least in the eyes of the masses in other vocations."

Napoleon's Happiest Day.

When Napoleon was in the height of his prosperity and surrounded by a brilliant company of the marshals and courtiers of the empire, he was asked what day he considered to have been the happiest of his life. When all expected that he would name the occasion of some glorious victory or some great political triumph, or some august celebration, or signal recognition of his genius and power, he answered, without a moment's hesitation: "The happiest day of my life was the day of my first Communion." At a reply so unforeseen there was a general silence; when he added, as if to himself, "I was then an innocent child."

PURE grape juice, says an authority on foods, is invaluable in either sickness or health. In fevers it is both food and medicine, and is more and more used by physicians. Oranges and pineapples make a delicious juice, but the small fruits are more valuable. Currants, used alone or mixed with a third of raspberries, are more so, and the huckleberry and elderberry yield products not to be despised. Blackberries, field or garden, are valuable medicinal agents, and the poorest cherry, uneatable as a fruit, becomes nectar when made into a drink.

PATIENT—Do you think a sudden shock would be likely to bring on a relapse?

Doctor—Most certainly.

Patient—Then please bear that in mind when making out your bill.

Happy the man, whose wish and care
A few paternal acres bound,
Content to breathe his native air
In his own ground. —Pope.

"WHAT is it that occurs once in a minute and twice in a moment, but not once in a hundred years?"

"The letter m."

DOMESTIC ECONOMY.

Domestic Hints.

SOUTHERN BATTER BREAD. — Two cups of Southern corn meal, sifted; four cups of milk, one tablespoonful of butter, one teaspoonful of salt, two eggs. Whip the eggs light, stir them into the milk, add the meal, salt and butter. Beat hard for two minutes, and bake very quickly in a shallow pan or in muffin tins.

BOILED CORN BREAD.—Two cups of corn meal, one cup of flour, two cups of sour milk, one cup of warm water, one tablespoonful of butter, one tablespoonful of molasses, one teaspoonful each of soda and salt. Mix all well together, turn into a mould with a tight-fitting top, put in a pot of boiling water and cook two hours. Turn out, let it dry in the oven for a few minutes and serve.

RHUBARB TO STEW. — For young rhubarb, wipe and cut it up, then for each pound of fruit take a gill of water and six ounces to eight ounces of sugar, and boil this to a syrup; then lay in the rhubarb, and let it cook very gently till tender; now strain off the syrup, dish the fruit; boil up the syrup till nicely thickened, and pour it over and round the fruit. Delicious if served in a border of empress rice, or with whipped cream.

BAKED CABBAGE.—Boil a firm white cabbage for fifteen minutes, changing the water then for fresh boiling water. When tender, drain and set aside until perfectly cold. Chop fine and add two beaten eggs, a tablespoonful of butter, a saltspoonful of pepper, two heaping saltspoonfuls of salt and three tablespoonfuls of rich milk or cream. Stir all well together and bake in a buttered pudding dish until brown. Serve very hot. This dish resembles cauliflower and is very digestible and palatable.

SHOULDER OF MUTTON BOILED.—Place a well-prepared shoulder of mutton in a saucepan, cover with boiling water, cook five minutes, then remove and plunge it instantly into cold water; return the shoulder to the saucepan, cover with fresh boiling water, add one-half even tablespoonful of pepper, one tablespoonful of salt, one onion, one carrot, one white turnip and a bouquet; place the saucepan over the fire and cook slowly three hours. When ready to serve, take the meat out of the broth, lay it on a warm dish and serve.

ORANGE PUDDING. — Peel the fruit, taking off all the inside skin. Slice about six oranges so prepared, and fill the bottom of a baking dish; sprinkle a large cupful of white sugar (more if the oranges are sour). Make a rich custard of eight eggs and one quart of milk, eight spoonfuls of sugar, and some of the juice of the oranges. Do not cook the custard, but pour it raw over the fruit. Cook the pudding until done and firm. Save the whites of three eggs beaten well, and add six spoonfuls of sugar. Pour over the pudding, and bake a light brown.

STRAWBERRY SAUCE. — One gill of butter, two gills of sugar (one cup), one cup of ripe strawberries, mashed, white of one egg; cream together butter and sugar; add the white of egg beaten to a very stiff froth and the strawberries thoroughly mashed. When well beaten together serve cold. Fine, large, perfect berries cannot be improved upon and should be served *au natural*. Leave the stems on, as removing them wastes the juice, and serve simply with powdered or very fine sugar. This is the most attractive and appetizing way of serving for breakfast.

EGG MUFFINS.—Separate the yolks and whites of three eggs and beat until light. To the yolks add one pint of milk. Mix in a bowl three cupfuls of flour, one-half of a teaspoonful of salt and one teaspoonful of sugar; add gradually the milk and eggs and beat until smooth. Add one tablespoonful of butter, melted, and beat again; add the whites of the eggs whipped to a stiff dry, froth and two teaspoonfuls of baking powder; mix carefully and quickly, fill greased muffin pans two-thirds full and bake twenty-five minutes in a quick oven.

SOFT GINGER BREAD.—One-half cupful of butter, one cupful of molasses, one cupful of sugar, one cupful of sour or buttermilk, one teaspoonful of soda, dissolved in boiling water, one teaspoonful of cinnamon, two eggs, about five cupfuls of sifted flour, or enough for a moderately thick batter. Cream the butter, sugar, molasses and spice; set the mixture on the range until lukewarm. Add the milk, then the beaten eggs, the soda and last the flour. Beat hard for five minutes. Bake in small tins or a single cake as preferred. It is excellent either hot or cold.

Hints to Housekeepers.

Eggs are most easily digested when the whites and yolks are thoroughly mixed before cooking, as in custards, scrambled eggs and omelets.

To renovate the tops of writing tables and leather chairs, sponge lightly with warm soapsuds, then wipe over with the white of eggs, whipped stiff.

To prevent a boot or shoe from slipping off, gum a little piece of velvet inside the heel of the shoe. This will will make it cling to the stocking and prevent slipping.

A dry sandwhich that is convenient for the 5 o'clock tea tray has for a filling shaved ginger and orange peel. Sugar-preserved ginger and candied orange peel are used for this purpose, spread between buttered slices of bread cut in oblong and circular shapes.

Bread crumb crusts are cut oval and half-heart shaped; they are 2 inches long and ¾-inch thick; make incisions on one side near the edge, using for this a small knife; brown both sides in a sautoir with clarified butter, then drain them to open and scoop out the crumb.

Here is a wrinkle, says a late English magazine, for cleaning laces at home. You must often have despaired of getting your lace that delightfully dingy, yet clean, color which you see in the shops. Make some very weak tea and add a few drops of India ink (the best) to the tea. Dip in your lace.

The tops of dining tables, or any other tables of mahogany or walnut which have suffered from the effects of heated plates, may be restored by using a little oil, which must be well rubbed on, and afterwards a little spirits of wine must be applied. Ink stains can be removed by the application of a teaspoonful of oxalic acid in a teacupful of warm water. It should be put on quickly with a brush or piece of flannel and washed off with milk.

Into the better class of kitchens aluminum utensils are rapidly making their way, as cooking in these becomes a pleasure and not a task. They are wonderfully light to lift, heat through in about half the time required for ordinary utensils, and preserve a dainty cleanliness and brightness if well cared for. The process of cleaning is simple in the extreme. When finished with, rinse the vessel out in warm water, wipe out with a kitchen towel and rub with a rough flannel. This silvery metal turns black under the action of soda, so servants should be warned never to use it for cleaning aluminum vessels.

Gilt frames require the greatest possible care in cleaning, and should never be touched with acids, as is sometimes erroneously advised, as a short time afterwards they will turn almost black. After being dusted, they may be sponged carefully with clean, cold water and a few drops of cloudy ammonia, or, better still, mix about as much soft soap as will lie on a shilling with half a pint of rain water, which has previously been boiled, and then add and shake up well a wineglassful of spirits of hartshorn. Apply this to the gilding with a soft camel hair brush, and, after it has remained there a minute or two, carefully wash off with clean water.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 30, 1899.

Chicago Wheat Fntures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Sept.	Dec.
Wednesday	72¼@71⅞	74⅝@71½
Thursday	72¾@71¾	74⅝@73⅞
Friday	71¾@71½	73⅞@73½
Saturday	71⅝@70⅛	73⅜@72⅜
Monday	71 @70	72⅝@71⅞
Tuesday	69⅝@70⅛	71⅝@72⅛

Liverpool Fntures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 10¾d	6s 0⅞d
Thursday	5s 11d	6s 1⅛d
Friday	5s 10⅝d	6s 0¾d
Saturday	5s 10⅜d	6s 0⅜d
Monday	5s 10⅜d	6s 0¼d
Tuesday	5s 9⅝d	5s 11¾d

San Francisco Fntures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 12½@1 12⅞	——@——
Friday	1 12⅛@——	1 17½@——
Saturday	1 12½@1 11⅞	1 17 @——
Monday	1 12 @1 11½	1 17⅛@1 16½
Tuesday	1 11½@1 11⅜	1 16½@1 16⅝
Wednesday	1 11⅛@1 11¾	——@——

Wheat.

While prospects are favorable for wheat ruling firmer later on, the market for actual wheat in this center has been slow and weak since last review, although not quotably lower. Offerings were light, and any attempts to have purchased freely would have been accompanied hy higher prices. Speculative values were lower in all grain centers. Chicago futures declined about 1¼c per hushel during the week. Liverpool options showed a decline of fully 1c per cental. On the local speculative market there was a drop of about 2c per cental in hoth December and May wheat. The speculative market at this writing (Wednesday noon) shows a fractional recovery from the lowest figures of the week.

While the outlook as regards crop returns and probahle requirements of importing countries the current season is not a whit less favorable to the producing interest than previously noted, it is doubtless surprising to many that the market should develop weakness. As a matter of fact, the wheat crop of the world does not promise to be as large as it did a fortnight ago, owing to the damaging weather in some districts in the meantime, still the immediate market is not so favorable to sellers as it was in the early paft of the month. That this should be so, however, is not very difficult to account for, when all the existing circumstances are taken into consideration. For some months past there have been heavy shipments from Argentina, the exports from that country, during the season now drawing to a close in the Southern hemisphere, aggregating over 45,000,000 bushels, wlth about 7,000,000 bushels still remaining, while the previous season the exports aggregated only 23,000,000 bushels, or little more than half the quantity sent outward thus far the current year. Europe is now drawing heavily on this grain and is thereby placed in a position to depress for the time being the price of wheat in other countries, with the United States the most prominent as an exporter in the Northern hemisphere. As is invariably the case at harvest time, much of the wheat in the United States is being urged to sale by farmers who are not forehanded, or what is still worse, by their creditors who are insisting on having their money, these creditors being in many instances parties who want the wheat in their own hands and take this means to secure it at the lowest figures possihle. Then in the speculative market there was the liquidation of September holdings by parties operating on margins and unahie to carry the actual wheat, which course could not result otherwise than have a depressing effect on option values, and in turn affect more or less the condition of the spot market. Viewed in the proper light, even with full faith in the future of wheat, the surprise is not that wheat has been temporarily weak, but that it has not been temporarily still more depressed.

California Milling	$1 07½@1 12½
Cal. No. 1 shipping, alongside	1 05 @1 06¼
Oregon Valley	1 03¾@1 07½
Walla Walla Blue Stem	1 05 @1 10
Walla Walla Club	1 00 @1 07½
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.12⅞@1.11½.

May, 1900, delivery, $1.17⅛@1.16½.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.11⅛@1.11¾; May, 1900, ——@——.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s3d@6s4d	6s0d@6s1½d
Freight rates	27½@28¾s	31¼@33¾s
Local market	$1.10@1.15	$1.05@1.07½

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flonr.

Previous conditions still remain current in the flour market, with nothing to warrant anticipating any change of moment in the near future. There is no scarcity of supplies, spot offerings from outside mills being particularly liberal, and on new brands, which holders are endeavoring to introduce, the market is especially favorable to buyers, such flour going in not a few instances at less than quotations.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

A quiet market has been experienced for this cereal during most of the week under review, particularly so far as export trade is concerned. Shippers are not paying much attention at the moment to offerings, but this is in all probability more due to the scarcity of vessels than to any other cause. While the absence of activity has caused the market to incline against sellers, the weakness has not heen very pronounced and has been confined more to common qualities than to high-grade stock of either Chevalier or the ordinary variety of barley. All things considered, the export movement thus far this season has heen of quite liberal proportions, footing up over 50,000 tons, most of the barley being destined for Great Britain, and is about the same amount as was sent afloat from this port for corresponding period two years ago. At this time last year the shipments aggregated less than 2300 tons. Business on local account was largely in feed descriptions. It was the exception where choice feed was urged to sale at decided concessions to buyers, but common qualities were obtainahle at easy figures. Business on Call Board was most of the time of an exceedingly slow order, values keeping within a narrow range, and absence of strength in prices of options a leading feature.

Feed, No. 1 to choice	82½@ 85
Feed, fair to good	77½@ 81¼
Brewing, No. 1 to choice, new	90 @ 97½
Chevalier, No. 1 to choice	1 17½@1 22½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 81¾@81½c.

December, 1899, delivery, 83@82¼c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 82¼@—c; seller 1899, new, 81c bid.

Oats.

The market for white oats is not displaying as strong tone as for some weeks preceding, partly on account of offerings showing some increase, but more due to less active inquiry, the Government having changed its purchasing from White to Red oats, the former having been lately too scarce and too high to justify attempts in the filling of large orders. As Red oats have heen offering in liberal quantity and have been showing good average quality, huyers found it much easier to fill with this description than with any other. Owing to the improved demand for Red, the market for the same showed a decidedly better tone. Inquiry for Blacks continued light. In Surprise and Gray oats there was little doing, party owing to absence of noteworthy offerings of choice stock.

White Oats, fancy feed	1 27½@1 32½
White, good to choice	1 15 @1 25
White, poor to fair	1 05 @1 10
Gray, common to choice	1 10 @1 25
Milling	1 20 @1 30
Surprise, good to choice	1 35 @1 40
Black Russian	90 @1 05
Red	95 @1 10

Corn.

No large quantities of Eastern are now arriving, hut stocks on hand are ample for the immediate demand, the market being devoid of any noteworthy firmness for Large Yellow and Large White. Supplies of domestic Small Yellow are of the same insignificant proportions as for weeks past, and market for same remains against buyers. No arrivals of consequence are expected of domestic product until new crop hegins to put in an appearance, which will be in about six weeks.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 40 @ —
Eastern Mixed	1 00 @1 02½

Rye.

There is not much doing locally, and little change to record in quotable rates. Export demand is not lacking, hut at no better prices than lately current—about 90c per cental for good average quality delivered at Port Costa. A part cargo of 15,077 centals was cleared this week for Europe.

Good to choice, new	92½@ 97½

Buckwheat.

With virtually nothing in store and little offering to arrive, prices are for the moment very poorly defined, and only nominal values can he named.

Good to choice	2 00 @2 15
Silverskin	— @ —

Beans.

There is not much business observable in the bean market, either for shipment or on local account. With stocks of only moderate volume, however, and composed largely of Lady Washingtons, Pinks and Bayos, holders have seen no necessity of crowding stocks to sale or of accepting lower figures than have heen lately current. While new crop heans were reported as arriving last week, those in a position to know assert that it was only the hags which were new and not the beans. No arrivals of new of consequence are expected before the early part or middle of October. This is generally a dull period in the hean trade, just between seasons, and were it otherwise at present it would be decidedly phenomenal. There is a good reason to expect a very fair inquiry for coming crop and at fully as good average prices as have been current lately on the product of 1898.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 70 @1 80
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 20 @2 30
Bayos, good to choice	1 70 @1 85
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	4 15 @4 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Recent advices by mail from New York City give following review of the hean market, prices quoted being per 60-lh. hushel:

Poor crop reports have continued, especially for Marrow and Red Kidney, and former have gradually advanced, though demand has been moderate. Medium and Pea have been held very firmly in hopes that the Government would purchase more stock to send to the hurricane sufferers in the West Indies, but just at the close some weakness is developing. At the close last week price jumped to $1.35, with scattering sales higher. Holders refused to sell under $1.37½@1.40 however, and by middle of the week those figures became established, though since then market has gradually weakened with Pea showing less strength than Medium. Red Kidney have been very dull and weakened to $1.65, with that figure shaded in some cases. Toward the close, however, poor crop reports are causing a stronger holding, and $1.65 is now an inside quotation with some late sales 2½@5c higher. White Kidney and all other varieties of beans have been very quiet and without change of feature; Limas quotable at $2.80. Green peas dull and rather favoring buyers in price.

Dried Peas.

Market is ahout bare of last year's stock, and in this respect could not well he in better condition for disposal of new crop, soon to come forward. Humboldt county is the principal field of production in this State.

Green Peas, California	1 85 @2 00
Niles Peas	1 65 @1 75

Wool.

The local market is quiet, and advices from the East report much the same condition of affairs on the Atlantic seaboard. There is very little wool being offered in this market from growers. Only a small quantity of Fall wool has thus far changed hands, and in the eagerness of scourers to secure samples, much of the wool was placed at stiffer figures than appeared to be warranted by values and conditions East. There has been a little purchasing in this center recently by local manufacturers, which ordinarily would not he noticeable, but in an otherwise inactive market is deserving of at least passing mention. Many of the local dealers prefer the existing condition of affairs at this juncture, as it enables them to operate to better advantage in the interior. Most of the Fall clip will have to go to scourers, and much of it will shrink 70 to 80 per cent; more especially is this the case with the wool now arriving, the best of the clip not being due until latter part of the season.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

Market remains lifeless in this center, and there are no indications of activity anywhere, according to advices from other points. New crop hops should soon be on the market in quotahle quantity. In some previous years new have arrived before this date, but mostly from localities where the hops mature unusually early and where the yards have since been abandoned. Present prospects are not encouraging for a brisk foreign demand or a strong market. Should the crop prove of better than average quality, a tolerably active speculative demand may develop at comparatively good values.

Good to choice, 1899 crop	12 @14

The following concerning the hop market is published under recent date by a New York authority:

There has been very little if anything new transpired during the week. A sample of new Humphrey hops has been shown within a few days past, but quality no better than last year. Farmers will make a great mistake if they commence picking before the hops are well matured, as they have so often done. This mistake was especially make in Oregon last year which we hope will be avoided in gathering the present crop. Advices from this State do not indicate any material increase in lice and prospects favorable for a fair yield though not as large as last year. Picking will probably begin on the week beginning August 28. From the Pacific coast estimates of the Oregon yield have been cut down to 75,000 bales. The vines are reported looking well in California and Oregon, but some lice in Washington. Foreign advices continue favorable. On the local market there has been very little doing, but some sales reported of 1898 growth in the country at 10@11c. Remaining stocks of 1898 hops are light and mostly consist of medium and lower grades. Very few 1897 hops were carried over, but there is a considerable quantity of old olds, mostly 1894 and 1895 crops, which are all counted in the stocks but are practically unless.

Hay and Straw.

While receipts of hay were of lighter proportions than precedin g week, the quantity received was more than ample for the immediate demand, and prices remained without quotable change, although the general tone naturally showed slight improvement. Many buyers are still refusing to purchase against future needs, believing they will be able to operate later on at easier figures, but in this they may he disappointed. Straw is not arriving in very heavy quantity, but there is enough to cause the market to rule weak.

Wheat	7 00@ 9 00
Wheat and Oat	7 00@ 8 50
Oat	6 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	——@——
Compressed	8 00@10 00
Straw, ₱ bale	25@ 40

Millstuffs.

While the general trend of the market for mill feed of most kinds was in favor of the huyer, with supplies of fair volume and demand moderate, quotahle rates were without material change.

Bran, ₱ ton	15 50@16 50
Middlings	18 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00



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Seeds.

Market has developed no new feature since former review. There is some inquiry for Mustard at steady rates, and more than is offering could be accommodated with custom. Values for Flaxseed remain undefined, but market has a strong tone. Stocks of other seeds are of light compass, admitting of very little business.

	Per ctl.
Mustard, Trieste	3 25@——
Mustard, Yellow	3 25@——
Flax	——@——
	Per lb.
Canary	3½@4
Rape	3 @4
Hemp	4¼@4½
Alfalfa, Utah	—@—

Bags and Bagging.

Although most of the handlers of Calcutta Grain Bags continue to quote 7½c, there is considerable business being transacted at a fractionally lower figure. The bag ship Macduff, from Calcutta for Portland, so long overdue and which was made the basis of the recent hoom, arrived quietly at destination on Thursday of last week, little or no mention being made of the fact.

Calcutta Grain Bags	7¼@ 7½
San Francisco Grain bags, 22x36, spot	7½@ 7⅝
State Prison bags, per 100	—@—
Wool sacks, 4 lh	28 @29
Wool sacks, 3½ lb	26 @27
Gunnies	10½@—
Bean bags	4½@ 4¾
Fruit sacks, cotton	5½@ 6¼

Hides, Pelts and Tallow.

The general features of the market continue as previously noted, there being a good demand at prevailing figures and a healthy tone.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	10@10¼	9@ 9½
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

Considering that the crop is exceedingly light and prices rather stiff, there is a very fair shipplag demand, with inquiry on local accouns about up to the average of former seasons.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

Market in lightly stocked and is firm at the current range of values. More than is offering could be readily placed at current rates.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Beef is offering in only moderate quantity, and values are being well sustained. Veal is not plentiful, and the same remark applies to Lamb, both being in good request at the figures quoted. Mutton is commanding much the same rates as for weeks past, with market in healthy shape. Hogs are in such light receipt from local points that dealers are compelled to import from the East to obtain enough fresh pork for the immediate demand.

Beef, 1st quality, dressed, net ₱ lb	8 @—
Beef, 2d quality	7 @ 8
Beef, 3d quality	6 @ 7
Mutton—ewes, 7@—c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5¾@ 6
Hogs, small, fat	5¾@ 6
Hogs, large hard	5¾@ 5¾
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	9 @11
Veal, large, ₱ lb	8 @ 8½
Lamb, spring, ₱ lb	8½@—

Poultry.

Choice young poultry and extra large and fat old chickens met as a rule with tolerably prompt custom at moderately firm figures, but for other descriptions the market inclined against sellers. Eastern poultry was in more

liberal receipt than preceding week. There are now three wholesale firms and several large retailers engaged in importing Eastern poultry, causing more than ordinary competition in the sale of the same.

Turkeys, young, ℔ lb	16	@	18
Turkeys, live hens, ℔ lb	12	@	14
Turkeys, live gobblers	12	@	14
Hens, Cal., ℔ doz	4 00	@5	50
Roosters, old	4 00	@4	25
Roosters, young, (full-grown)	4 50	@5	50
Fryers	3 50	@4	00
Broilers, large	3 00	@3	50
Broilers, small	2 50	@3	00
Ducks, ℔ doz	3 50	@5	00
Geese, ℔ pair	1 25	@1	75
Goslings, ℔ pair	1 50	@2	00
Pigeons, Old, ℔ doz	1 50	@1	75
Pigeons, Young	1 50	@1	75

Butter.

Another advance was effected in prices of fresh hutter at close of last week, as high as 30c heing asked in a small way for favorite marks of creamery, hut this was not a quotahie figure. In consequence of this last advance, many consumers have switched off to packed hutter, there to remain during the balance of the season. Market for fresh could not be termed firm at the higher figures established, as there was tendency to accumulation of stocks. Packed hutter is in very fair suppiy, hoth domestic and Eastern, and is offering at generaliy unchanged rates.

Creamery extras, ℔ lb	27½	@	—
Creamery firsts	26	@	—
Creamery seconds	25	@	—
Dairy select	24	@	25
Dairy seconds	20	@	22½
Dairy, soft and weedy	—	@	—
Mixed store	14	@	15
Creamery in tubs	18	@	20
Pickled Roll	18	@	20
Firkin, Cal., choice to select	18	@	20
Firkin, common to fair	15	@	16

Cheese.

Domestic product is not in heavy stock, and particularly is choice to seiect miid-flavored new offered sparingiy, with good inquiry for the iatter. Some sales are made in a small way at an advance on quotable rates. Cheese which has been out of the press for several months is not so eageriy sought after, and falls to command correspondingly stiff figures.

California fancy flat, new	11	@	—
California, good tc choice	10	@	10½
California, fair to good	9	@	9½
California Cheddar	—	@	—
California, "Young Americas"	10	@	12

Eggs.

Market ruied higher for choice to select fresh, direct from ranch or hennery, some extra seiect heing heid at an advance of 2c or more over highest figure warranted as a quotation. The market was not very firm, however, at this late advance, the demand showing marked decrease, in consequence of a large portion of the trade being diverted to Eastern and coid storage eggs. The latter were in good suppiy and were offered at easy rates.

California, select, large white and fresh	29	@	—
California, select, irregular color & size	25	@	28
California, good to choice store	19	@	23
Eastern, as to section and grading	17	@	22
Eastern, cold storage	—	@	—

Vegetables.

Onions were in good request during most of the week for shipment to Australia, and in consequence this vegetahie sold in the main to good advantage. Changes in prices of other vegetahies were few and not very marked. Most kinds were in ampie supply, and the general tendency of values was in favor of the consumer.

Asparagus, fancy, ℔ box	—	@	—
Asparagus, No. 1, ℔ box	—	@	—
Asparagus, common to fair, ℔ box	—	@	—
Beans, Wax, ℔ lb	1½	@	2½
Beans, String, ℔ lb	1	@	2
Beans, Lima, ℔ lb	1½	@	2½
Cabbage, choice garden, ℔ 100	50	@	60
Cauliflower, ℔ doz	50	@	—
Corn, Alameda, ℔ crate	75	@ 1	25
Corn, Green, ℔ sack	25	@	75
Corn, Berkeley, ℔ crate	40	@	75
Cucumbers, Alameda, ℔ large box	20	@	35
Cucumbers, ℔ small box	—	@	—
Egg Plant, ℔ box	25	@	50
Garlic, new, ℔ lb	2	@	3
Mushrooms, Buttons, ℔ lb	—	@	—
Mushrooms, wild, ℔ box	—	@	—
Okra, Green, ℔ box	30	@	60
Onions, Yellow, good to choice, cental	80	@	90
Onions, New Red, ℔ cental	—	@	—
Peas, Sweet, Garden, ℔ lb	3	@	4
Peas, common, ℔ lb	1½	@	2½
Peppers, Green Chile, ℔ box	25	@	40
Peppers, Bell, ℔ large box	35	@	50
Rhubarb, ℔ box	—	@	—
Squash, Bay, ℔ large box	—	@	—
Squash, Marrowfat, ℔ ton	—	@	—
Squash, Summer, ℔ small box	20	@	30
Tomatoes, ℔ large box	40	@	75
Tomatoes, ℔ small box	20	@	35

Potatoes.

Receipts of potatoes were in fairiy iiberai volume, and with the demand not very brisk, the market inclined against seliers, although no very radicai changes in quotahie rates were effected. Sweets were held ciose to figures iast quoted, with stocks not very heavy.

Burbanks, River, ℔ cental	50	@	75
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	—	@	—
River Reds	1 00	@1	25
Early Rose	75	@	—
Garnet Chile	90	@1	00
Burbanks, Salinas, ℔ cental	1 20	@1	35
Sweet River, ℔ cental	1 25	@1	75
Sweet Merced	—	@	—

The Fruit Market.

Fresh Fruits.

The market for fresh fruits continued in most important particulars much the same as preceding week. Whiie supplies were fairiy iiberal, it was the exception where desirahie quaiities were in excessive receipt. Apples of choice to seiect quality were in good request, both for shipment and on iocai account. Colored of favorite varieties were especiaiiy sought after and commanded comparativeiy good prices. Gravenstein in fine condition, four tiers to the hox, were quotabie up to $1.25 per box. Peaches were perhaps in a little hetter supply than preceding week, hut only for ordinary qualities could the market he said to be quotably lower. That there will be a giut of choice Peaches or a glut of choice tree fruit of any variety during the balance of the season is not prohahie. Bartlett Pears were in very moderate receipt, and it was the exception where offerings were large, hard and sound, free from worms and other defects. Stock of latter sort in hulk did not have to wait long for custom at $40@45 per ton, and in smaii hoxes brought proportionately good prices. Plums sold at a tolerahly wide range, with the firmness of the market confined to the large sizes in first-class condition. Grapes were not in very heavy receipt, and fully as good figures were realized as for the previous week, particularly for desirabie shipping stock. Melons inclined more in seliers' favor than for a week or two preceding, with reduced offerings and improved demand. Market for the several kinds of Berries now in season did not display much strength, the inquiry not being very active or urgent.

Apricots, good to choice Royal, ℔ ton	—	@	—
Apricots, Royal, ℔ box	—	@	—
Apricots, Pringle, ℔ box	—	@	—
Apples, fancy, ℔ 50-lb. box	—	@	—
Apples, fancy, 4-tier box	1 00	@ 1	25
Apples, good to choice, ℔ 50-lb. box	75	@	90
Apples, Green, common to fair, ℔ 50-lb. box	25	@	50
Blackberries, ℔ chest	3 00	@ 4	50
Cantaloupes, ℔ crate	50	@ 1	00
Cantaloupes, Nutmeg, ℔ crate	25	@	50
Cherries, Black, ℔ box	—	@	—
Cherries, Red, ℔ box	—	@	—
Cherries, Royal Anne, ℔ box	—	@	—
Cherries, White, ℔ box	—	@	—
Crabapples, ℔ small box	35	@	60
Currants, ℔ chest	—	@	—
Figs, Black, 2-tier box	50	@	90
Figs, Black, ℔ drawer	35	@	50
Gooseberries, ℔ lb	—	@	—
Gooseberries, ℔ 10-lb box	—	@	—
Grapes, Black, ℔ crate	40	@	65
Grapes, Fontainebleau, ℔ crate	—	@	—
Grapes, Muscat, ℔ crate	40	@	65
Grapes, Tokay, ℔ box, 35@60c; ℔ crate	40	@	75
Grapes, Seedless, ℔ box, 60@80; ℔ crate	65	@	90
Grapes, Isabella, @ crate	75	@ 1	25
Logan Berries, ℔ chest	6 00	@ 7	00
Nectarines, Red, ℔ box	50	@	65
Nectarines, White, ℔ box	40	@	50
Peaches, fancy wrapped, ℔ box	75	@	90
Peaches, ℔ box	40	@	75
Pears, Bartlett, No. 1 to choice, ℔ ton	35	00@45	00
Peaches, Clingstone, ℔ ton	20	00@35	00
Peaches, Freestone, ℔ ton	15	00@27	50
Pears, Bartlett, ℔ 40-lb. box, wrapped	75	@ 1	25
Pears, common, ℔ basket	25	@	50
Pears, ordinary, ℔ box	25	@	60
Plums, large, ℔ ton	15	00@20	00
Plums, large, ℔ crate	40	@	65
Plums, ℔ box	25	@	50
Plums, Cherry, ℔ drawer	—	@	—
Raspberries, ℔ chest	3 00	@ 5	00
Strawberries, Longworth, ℔ chest	6 00	@ 7	00
Strawberries, Large, ℔ chest	3 00	@ 4	00
Watermelons, ℔ 100	5 00	@20	00
Whortleberries, ℔ lb	3½	@	5

Dried Fruits.

While the movement in cured and evaporated fruits is of fair volume, it might be more active were it not for the fact that the stock which is heing offered most freely is not the sort which is most eagerly sought after. Peaches are in heaviest spot supply, offerings running iargely to common grades, which is usuai with early consignments. Quotahle values are at a wider range than previousiy noted, to cover the greater difference in quaiity, with market weak and slow for low-grade stock at the reduced quotations, but on choice to fancy grades the market does not incline in favor of huyers. Most of the husiness is within range of 5⅓@6½c, hut strictiy fancy would more readiiy command 8c than some very ordinary Chinese cured wouid 5c. Apple market is showing a iittle easier tone, with offerings on the increase and prospects of heing stiii more iiberal in the near future, hut no no materiai deciines from figures now current are iikely to he experienced. Pears are in extremely iight stock, and it would he exceedingly difficult to secure carioad iots at figures below quoted; still, there are some sales reported of small and irregular parcels at figures siightly under quotations. Plums are not making much of a showing, hut there are enough for immediate needs, market ruling fairly steady. Prune market is presenting an easy tone for the medium to iarge sizes at the iower figures iast quoted in these columns. The smaller sizes wiii he rather scarce the new season, and market for these is firm at the rates current. Smaii shipments of new Prunes have heen already made, mainly Eastward. Business in new is at 2¾ @3c for the four sizes, iatter figure heing for Santa Claras. Orders for seiect new in 25-lb. boxes are being hooked at 6¼c, 5¼c and 4¼c for 40s, 50s and 60s.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10	@	12
Apricots, Royal, fancy	12	@	13
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7	@	7½
Apples, 50-lb. boxes, rings, pressed, good to choice	6½	@	7
Figs, White, fancy pressed	8	@	8½
Peaches, unpeeled, good to choice	5	@	6½
Peaches, unpeeled, fancy	7	@	8
Peaches, peeled, in boxes	—	@	—
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½	@	8¼
Plums, pitted	5	@	6
Prunes, in sacks, 40—50's	6½	@	7
50—60's	4½	@	4¾
60—70's	3½	@	3¾
70—80's	2¾	@	3
80—90's	2½	@	2¾
90—100's	2¼	@	2½
110—130's	1¾	@	2
Prunes in boxes, ¼c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	3	@	—
4 sizes San Joaquin and Northern	2¾	@	—
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4	@	5
Apples, quartered	4	@	5
Figs, Black	2	@	3
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Advices by mail of iate date from New York City give the following report of the dried fruit market.

The remaining supply of evaporated apples is light and with a steady jobbing demand market is quite firm with occasional sales, more especially of the better grades which are about cleaned up higher, than quoted. Only small lots of new arriving as yet and values not established; the market will probably open from 6¼@8c for common to choice; a lot of prime recently received realized 7¾c and sale is reported at the close at 7c. Futures are again lower, prime not being worth over 7c for October and November delivery. Crop reports are still unfavorable.

The Government circular reports the condition on August 1st as follows: "There are but few States from which the reports as to the apple crop are not even more unfavorable than they were last month. Taking the fourteen States having 8,000,000 or upwards of apple trees in bearing at the last census there was further decline during July of seven points in New York and Tennesee (to 47 and 53 respectively), three points in Pennsylvania and Kentucky (to 70 and 54), four points in Missouri, North Carolina and Maine (to 47, 41 and 36 respectively) and six points in Iowa (to 65). The condition in Illinois, Indiana and Kansas underwent no appreciable change and there was an improvement of two points in Ohio (to 67) and three points in Michigan and Virgina" (to 54 and 53). The percentage in some other States includes New Hampshire 47, Vermont 37, Massachusetts 42, Connecticut 65, New Jersey 73, Delaware 73, Maryland 80, Indiana 69, Illinois 62, Wisconsin 44, Minnesota 52, Missouri 47, Kansas 58 and Nebraska 67.

Sun-dried apples inquired for but only scattering lots received as yet. Chops very dull but cores and skins steady. Raspberries more plenty and a shade lower. Huckleberries scarce and nominally firm. Blackberries steady but 5c extreme. Cherries steady under light offerings. California Royal apricots have had some sales at 12c for new and are quoted 10@10½c on the coast and Moorpark have advanced to 16@17c for new on coast. New California unpeeled peaches have had sales at 8c in bages, quality poor; old about cleaned up. California prunes unchanged.

Apricots, Cal. Moorpark, 1898, per lb	13	@	15
Apricots, Cal. Royal, 1898, per lb	12	@	13
Peaches, Cal., 1898, unpeeled, per lb	8	@	9
Prunes, Cal., 1898, per lb	3	@	8

Raisins.

There is a fair business doing in Raisins for this time of year, and at decidedly steady rates, quotations remaining as before. Stocks are now light, footing up only about 200 carloads, mainly standard 3-crown. Prices for new crop are expected to be fixed Friday, Sept. 1st, upon the return from the East of the president of the Growers' Association.

F. O. B. FRESNO DELIVERY.

London layers, 3-crown, 20-lb box	—	@1	20
London layers, 2-crown, 20-lb box	—	@1	10
Valencia layers, ℔ 20-lb box	80	@1	00
(Usual advance for fractions.)			
Loose Muscatel, 4-crown, ℔ lb	5¼	@5¾	
Loose Muscatel, 3-crown	4¼	@4¾	
Loose Muscatel, 2-crown	—	@	—
Loose Muscatel, ungraded	—	@	—
Sultanas, unbleached	—	@	—
Seedless Muscatel	—	@	—
Thompson's Seedless, unbleached	—	@6	
(Above prices for loose raisins are for 50-lb boxes.)			
Dried Grapes	2½	@2¾	

Citrus Fruits.

Lemons continue in iiberal suppiy. Demand has heen fair for choice to select at unchanged values, but ordinary qualities receive iittle attention. Limes are in ampie supply for current needs and prices are without quotable change.

Lemons—Cal., select, ℔ box	2 75	@ 3	25
Cal., good to choice	1 75	@ 2	50
Cal., common to good	1 00	@ 1	75
Limes—Mexican, ℔ box	4 00	@ 4	50
Cal., small box	75	@ 1	00

Nuts.

New crop Almonds are heginning to arrive and are being favored with a firm market. Quotations are appended. Market for Walnuts presents no new developments. Peanut market is very iightiy stocked and is against buyers.

California Almonds, paper shell, ℔ lb	11	@	13
California Almonds, soft shell	8	@	10
California Almonds, hard shell	7	@	8
California Almonds, shelled	—	@	—
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	—	@	—
Walnuts White, Cal., standard	9	@	10
Chestnuts, Cal. Italian	—	@	—
Peanuts, Cal., fair to prime	5½	@	6
Peanuts, Eastern hand-picked	6	@	7
Pine Nuts	5	@	8

Wine.

The general features of the wine market remain as previously quoted, with no likelihood of any radicai change, either in general tone or in quotable values, being experienced in the near future. There is little offering from first hands, hut where transfers are effected they are within range of unchanged quotations, 15@20c per gallon for new Claret, San Francisco delivery. Monday's Panama steamer carried 115,600 gaiions wine, of which quantity 105,000 gallons were destined for New York.

Prices quoted in this review are intended, uniess otherwise specified, to represent whoiesale vaiues, ohtainabie on offerings from the producer, and on round iots deiivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on vaiues current on ahove dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possibie the existing vaiues. It should he remembered, however, that at times, owing to the superior merit of offerings, undue competition hetween huyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidediy inferior quaiity is apt to he soid at less than iowest figures.

California Dried Fruit at New York.

NEW YORK, Aug. 30.—California dried fruits: Market quiet; unchanged. Evaporated apples, common, 6½@7½c; prime wire tray, 8¼@8½c; choice, 8¾@9c; fancy, 9¼@9½o.
Prunes, 3¼@8c.
Apricots, Royal, 14@—c; Moorpark, 15@16c.
Peaches, unpeeled, 8@11½c; peeled, —@—o

Produce Receipts.

Receipts and exports of ieading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ½-sks	102,819	892,625	719,221
Wheat, ctls	32,248	684,757	549,526
Barley, ctls	268,864	1,346,361	196,010
Oats, ctls	19,130	114,239	60,545
Corn ctls	1,350	21,165	22,570
Rye, ctls	1,555	29,354	3,175
Beans, sks	1,082	31,675	32,908
Potatoes, sks	24,164	144,811	162,697
Onions, sks	5,236	36,139	37,667
Hay, tons	4,921	31,693	30,147
Wool, bales	1,120	13,444	10,477
Hops, bales	.....	692	1,448

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ½-sks	34,460	491,163	527,716
Wheat, ctls	35,728	510,747	282,562
Barley, ctls	204,357	1,009,926	37,412
Oats, ctls	2,034	6,707	3,443
Corn, ctls	776	2,982	2,712
Beans, sks	379	3,458	9,561
Hay, bales	2,649	14,062	5,787
Wool, lbs	.....	28,006	488,690
Hops, lbs	1,354	14,565	83,393
Honey, cases	786	1,118	1,063
Potatoes, pkgs	2,836	9,324	7,461

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Agriculture in the Next Census.

With agriculture the greatest single factor in the national wealth, it is but fitting that this division of the census should receive the most careful and thorough consideration. Everything possible should be done to correct weaknesses in earlier census work, and to fully develop the various branches of the inquiry into agricultural conditions. We would lay especial stress upon the importance of thoroughness in the inquiry into farms, homes and mortgages. The census should be taken in such a manner as will make it possible to determine with great accuracy the extent of farm mortgages, and, if possible, show the release of such obligations within the preceding twelve months as declared by official county returns. Work along this line should contemplate an exact statement of facts. We believe this will aid in further establishing the good credit of American farmers. The comprehensive array of figures tending to show that farmers as a whole are measureably prosperous, should do much to enable agricultural classes to refund some of their old mortgages at lower rates of interest, and to borrow at "living" rates on this splendid class of security, taking advantage of the downward interest trend so noticeable the last few years. The federal census should continue work on this mortgage proposition begun ten years ago, and we bespeak for all gathering these needed facts the hearty co-operation of our intelligent farmers.

Another great improvement which we hope to see in the next census is the more thorough classification and attention given to various special crops, up to this time entirely ignored. While the great staples are so exhaustively covered, there are a number of minor crops which in the aggregate engage the work and attention of a vast number of farmers. Up to the present time no federal census has ever devoted any attention to such money crops as sugar beets, onions, peppermint, cranberries, castor beans, etc. The next census will, of course, include ample details relating to the sugar beet industry, as this has expanded so rapidly during the last four or five years, far overshadowing cane and sorghum crops. Certain of the specialties just named are grown exclusively in but comparatively few States. Yet they should be included in the schedule, and a summary of the returns would afford a basis with which to carry on the work of crop reporting in a greater thoroughness than possible up to the present time.

The census should include figures relating to the breeding of Angora goats and the production of mohair. Let this "stock taking" throughout Brother Jonathan's big farm in this last year of the century be as complete and up-to-date as our experts can make it. Finally, may the figures be available for public use within a reasonable time after they have been gathered, and not have the flavor of ancient history before they see the light of day.—Orange Judd Farmer.

IF you look at a dozen common lamp-chimneys, and then at Macbeth's "pearl top" or "pearl glass," you will see the differences—all but one—they break from heat; Macbeth's don't; you can't see that.

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A BURNING OIL WELL, COALINGA DISTRICT, CAL.

A Burning California Oil Well.

The accompanying engraving is from a photograph kindly furnished by Mr. E. M. Hoagland of San Mateo, Cal. It graphically represents Home Oil Co.'s Well No. 4, Coalinga district, Fresno Co., Cal., as it appeared while on fire Aug. 1st, '99, and is believed to be the first picture of a burning California oil well ever published.

Raising Horses.

Our farmers would generally be in a bad plight if they had no judgment of their own and would listen to some ignorant scribblers for advice. Only recently in an article on horse breeding a writer advised them to "raise horses weighing about 1000 to 1200 pounds that could road twelve miles an hour, or 100 miles in ten hours, and when put upon their speed show a 2:30 gait. Such horses, if perfect in every other respect," the writer remarked, "would be eagerly bought by rich people at high prices, and it was not so difficult to raise them as some people imagined. Let the farmer start in with mares with the right pedigree, mate them properly, and there they would 'hatch.'" Naturally enough, farmers are too wide-awake to pay much attention to such silliness; they know that cattle are high and that they are pretty sure of fair returns raising them or good draft stock, either horses or mules. If a farmer owned an exceptionally speedy horse, he would not in all likelihood get the real value of the animal.

Horses are rapidly being replaced by other power, and it is well that it is coming to that, for no animal in our opinion is more roundly abused than this most faithful of all servants. When we see an able horse driven at top speed for a reasonable distance over a good road we find no fault; it affords pleasure to the people and does not hurt the animal. But when we see old horses, or even good horses, unmercifully urged on over all kinds of roads and in all kinds of weather, as is so often done, we call it cruelty, and in our school days we were taught by our teachers that cruelty to animals was sinful and criminal; so many object lessons were given us that it became second nature with most of us to treat animals kindly. This hurrying along is not by any means caused by pressure of business; oh, no, business is not so rushing nowadays—a good many people would have made money these last two year, if they had slept instead of worked. The consequence of this abuse of horses is that more stove-up, broken-down animals can be found in this State than almost anywhere else. There is no class of people that suffers more from this reckless, cruel driving than livery stable men; they could tell some woeful tales if they would.—Herman Koster in Anaheim Gazette.

—California leather is in demand from Japan for harness and heavy work. There has been a steady importation there of horses to do heavy draft work. There is a scarcity of hides at present and California is importing from Australia. On the coast and in the Northwest the demand is mostly for fine-grained hides, but the transpacific trade calls for heavier, coarser goods. No hides come from South America, as these are all shipped down the rivers to the Atlantic and to New York and Boston or across the water. The Pacific coast line of South America does nothing much in cattle. California leather dealers do not handle horse hides, though parts of them make good shoe leather.

The Largest Vessel Afloat.

The new White Star liner Oceanic, expected to arrive at New York this week, is 704 feet long, 68 feet beam and 44 feet depth of hold; gross measurement, a little over 17,000 tons, or about 5000 tons larger than the Cunard line vessels, Campania and Lucania, which have held the record for size on the New York and Liverpool route. Her cost is over $5,000,000. The following table illustrates some features of the development of large shipbuilding during the past forty-one years:

Names.	Year.	Length, ft. in.	Breadth, ft. in.	Depth, ft. in.	Displacement, Tons.
Great Eastern	1858	680	83	57-6	27,000
Britannic	1874	455	45	36	8,500
Arizonia	1879	450	45-2	37-6	.....
Servia	1881	515	52	40-6	9,900
Alaska	1881	500	50	39-8	.....
City of Rome	1881	542-5	52	38-9	11,230
Oregon	1883	500	54	40	.....
Paris	1888	527-6	63	41-10	13,000
Teutonic	1890	565	57-6	42-2	12,000
Campania	1893	600	65	41-6	.....
Kaiser Wilhelm der Grosse	1897	625	66	43	20,000
Oceanic	1899	704	68	49	28,500

The Oceanic will have accommodations for 1710 passengers and will carry a crew of 390 men.

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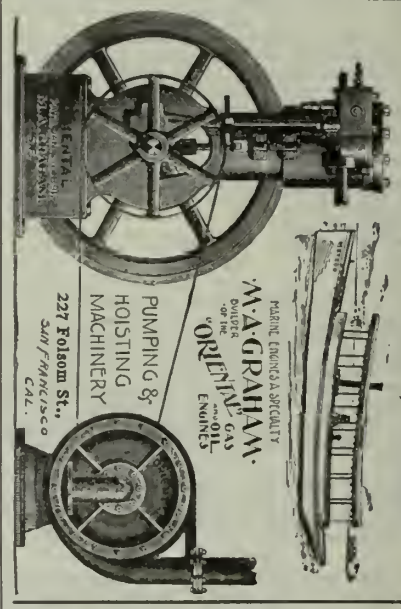
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THE VETERINARIAN.

Quarantine to Prevent Spread of Texas Fever.

SACRAMENTO, Aug. 23.—Governor Gage has issued a proclamation establishing the following quarantine line for the purpose of preventing the spread of Texas fever among cattle:

"Beginning on the Pacific coast, where the southern boundary line of Marin county connects with the Pacific ocean; thence easterly and northerly along the southern and eastern boundary lines of Marin and Sonoma to the intersection of Sonoma and Solano counties; thence following the western, northern and eastern boundary lines of Solano county to the Sacramento river; thence northerly along the eastern boundary line of Yolo county to its intersection with the boundary line of Sutter county; thence easterly along the boundary lines of Sutter and Placer counties to the intersection with the El Dorado county; thence southerly and easterly along the southern boundary line of El Dorado county to the intersection with the western boundary line of Alpine county; thence in a southerly direction along the western boundary lines of Alpine, Mono and Inyo counties to the southwestern boundary of Inyo county; thence east along the southern boundary of Inyo county to its intersection with the eastern boundary line of the State of California.

"No cattle are to be moved across this line from the south, or west of this line to the north, or east of it unless they shall have been dipped under the supervision of an inspector of the bureau of animal industry, United States Department of Agriculture, in such a solution as may be required by the Secretary of Agriculture, and a certificate of such fact given with a bill of health from such inspector."

The Governor's proclamation establishing a quarantine line for cattle may prove to be of considerable value to the stockmen of this State. The line as established is the same as the line existing in 1898, but which was never recognized by the Federal Government and which was abandoned. As the matter now stands, and as it has stood for a number of years, the whole State is under quarantine. Now that this line has been established again, State Veterinarian Blemer hopes that the Federal Government will adopt it and take the quarantine off the State as a whole. The good that would thus be accomplished can easily be appreciated when it is taken into consideration that almost all the stock raised in the State is raised north of the line, and that the northern part of the State would not be in the quarantined district.

Blemer has wired to the United States Department of Agriculture informing it of the Governor's proclamation and requesting that the Federal Government adopt the new line and annul the quarantine at present existing on the whole State.

Pine Tar for Wounds.

TO THE EDITOR:—Your correspondent from Yuba county asks for a receipt for cuts and wounds. I find nothing equal to pine tar for barbed wire cuts. It is very healing, keeps away flies and needs no washing; apply every two or three days until cured. It can be obtained in tin cans. — E. GALLUP, Woodland.

Weeds in Stubble Fields.

The thousands of acres of grain stubble which will lie awaiting the plow will be neglected on some farms, and wherever it is neglected will produce weed seed enough to give a serious backset to the war on weeds even on an otherwise well tilled farm. The number of seeds produced by some of the stubble weeds is enormous. Estimates based on partial counts gave for the cockle bur 9700 seeds, or half that number of burs. Rag weed showed 23,100, while one of the pig weeds headed the list with 954,000 seeds. These estimates are much too large for the average individuals which grow crowded in the fields, yet they show their power to produce seed. A portion of the farm left thus each year will make almost fruitless the most determined effort to rid the farm of noxious weeds.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING AUGUST 15, 1899.

631,060.—PRINTER'S RULE—I.W. Allspaugh, Stockton, Cal.
630,839.—LOCK—J. F. Anderson, Paso Robles, Cal.
630,971.—SLUICE—P. S. Buckminster, S. F.
630,973.—RUDDER BRAKE—J. Christensen, S. F.
630,153.—SAW—M J. Clark, Chaparral, A. T.
631,155.—TYPEWRITER—J. M. Cramer, Santa Margarita, Cal.
631,005.—APRON FASTENER—H. K. Custer, Norwalk, Cal.
631,065.—AWNING—J. Delorieux, S. F.
630,975.—GAS GENERATOR—G. Dawson, S. F.
630,868.—SPLIT PULLEY—J. A. Dorman, Woolley, Wash.
631,068.—BOTTLE STOPPER—J. P. Erie, Los Angeles, Cal.
631,009.—SICKLE BAR—J. Hahn, Colegrove, Cal.
631,021.—CHOPPING KNIFE—J W. Lohr, Lamanda, Cal.
631,261.—WATER HEATER—T. Pattison, San Luis Obispo, Cal.
630,924.—TROWEL HANDLE—W. D. Pickens, Bull Run, Ogn.
631,178.—WAVE POWER—T. Redding, Seattle, Wash.
630,932.—ROTARY PUMP.—A. Rock, S. F.
630,990.—SOUND INDICATOR—C. Salmond, S. F.
630,964.—POSTAL MACHINE—Wright & Griffith, Portland, Or.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

LIQUID RUDDER BALANCE.—J. Christensen, San Francisco, Cal. No. 620,973. Dated August 15, 1899. This invention relates to a governor for ships' rudders. It consists essentially in a novel arrangement of a cylinder or cylinders with piston movable with relation thereto, a piston rod connecting the main cylinder with a lever fixed to and movable with the rudder stock, and a means for transferring liquid from one side to the other of the piston within the main cylinder, and means for compensating for the difference between the two ends of the cylinder by reason of the space occupied by the piston rod upon one side of the piston. It also comprises means for replenishing the loss of liquid within the cylinders from time to time. With a device of this character connected with the stock of the rudder, the shocks caused by the action of the sea in heavy weather are prevented from being communicated through the steering gear on account of the resistance of the liquid moving through the small communicating passages, and while these passages do not prevent the slow movements from side to side when operated by the steering gear, they prevent its being suddenly dashed to one side or the other. The details or compensating for the different amounts of liquid required to fill the opposite ends of the cylinder and the means for supplying any waste make a very effective operating device.

CAN SOLDERING APPARATUS.—W. S. Case, San Jose, Cal. No. 630,591. Dated Aug. 8, 1899. This invention relates to an apparatus by which square cans are delivered into holders and caused to traverse a solder hath with means for rotating the cans at stated intervals so as to present each of the edges to be soldered while the can is passing through the hath. It consists of a trough for melted solder, a framework fixed diagonally with relation to the trough having a support in which the sides of the cans rest and a second support against which the bottom of the can rests so that the angular edges will be suhmerged in the solder. A device is employed for moving and turning the cans consisting of an endless traveling chain, shafts journaled transversely of the chain and in line with the axis of the can, arms fixed to the upper ends of the shafts and fixed stationary lugs with which the arms engage successively as the chains travel, thus turning the shaft at intervals to suhmerge the new edge of the can in the solder hath. A transversely slotted disk is fixed to the lower end of each shaft and a carrier head is loosely attached to the disk and movable radially with relation to it. Arms project from this head and are adapted to clasp the end of the can so that the movements of the head will allow the angular can to turn as it moves through the hath.

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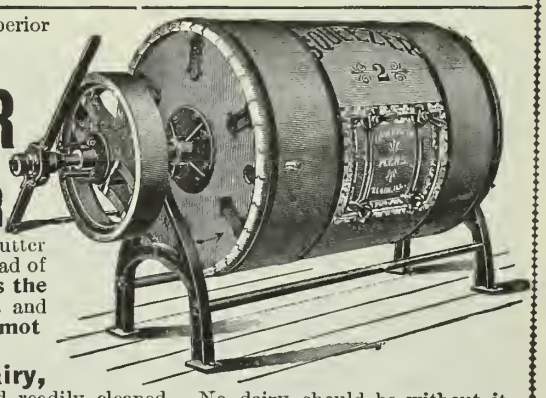
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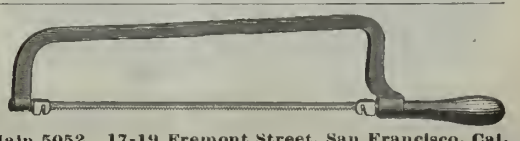
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FRUIT MARKETING.

Meeting of Prune Growers.

The San Jose Farmers' Club has called a meeting of prune growers. The San Jose *Mercury* says that the condition of the prune market at the opening of the new season is far from satisfactory, although the elemental features of the world's crop are highly favorable for remunerative prices. The European output of prunes this year will be far below the average, and the quantity of Pacific coast prunes carried over from last year is comparatively insignificant. The Washington and Oregon crops are reported to be short and of poor quality, and the crop in this State will not reach the average in quantity, while in quality the new prunes will be the largest and best flavored ever grown in California. Naturally, with an all-round shortage, and with only a small supply of last year's product on hand, the opening market for the present year should be strong and buoyant.

How to prevent growers who stand in need of present money from selling at the extremely low prices now offered is the one problem to be dealt with at this time. If the great majority could or would hold on the problem would be solved, prices would shortly right themselves and the entire crop would be disposed of at profitable figures. But there is a vast number of people engaged in growing prunes in this State, and, except those who are co-operating through unions and exchanges, they are all acting independently of each other. Many of them must have money, and with that class the temptation to sell at any price offered is great. If they could be tided over temporarily by advances made through local agencies, so that they need not dump their fruit on the market to the serious detriment of the whole industry, prices would soon establish themselves on a satisfactory minimum basis for the season.

In order that the situation may be generally discussed and possibly some solution of the difficulty arrived at, the Farmers' Club has called a mass meeting of all who are interested in prune growing to be held at Hale's Hall in San Jose, Saturday afternoon, Sept. 2nd. All growers are urged to attend.

Dried Peaches.

Last year, the fruit crop—dried peaches are alone referred to here—was not a very abundant one, at least in this State. Statistics show that something like half a crop was raised, and a great many of them were dried; but it is an acknowledged fact that at the present time there is but little of that peach crop left, so that the year began with a depleted market. Added to this, on the east of the Rockies the great peach orchards were so badly injured by the severe cold of last winter as to destroy thousands of trees, even entire orchards in the Eastern and middle States were frozen beyond recuperation and had to be dug up. On top of this came a demand for this fruit from the scurvy regions at the frozen north that took tons to supply. An order has just been issued from the Department of War to put in a large supply for the use of our soldiers—and there will be more than one hundred thousand of them—and yet the largest estimate that has been placed on the California output of peaches is less than two-thirds of a crop. Into this crop are rushing the canners, gobbling up all the fruit they can possibly handle, and this over the entire State.

And, yet, in the light of these facts dried peaches that sold last year for 7 and 8 cents are now commanding but 4 to 5 cents. The peach is the poor man's food, and the poor man has more money this year than ever before. Now, what does this all mean, but that a gang of zealous buyers has attemped to put up a job on the fruit raisers in order to get the peaches for a song, well knowing that before the first day of next January there is nothing on the earth, or above the earth, that will prevent this fruit from selling from 8 to 12 cents per pound. It is true that some growers will be obliged to sell for less than that sum for they stand in need of ready money and must have it at any cost; but the most of those having this fruit will not sell it until the high market is reached, and they will not have to wait till the first of November. Bear in mind that it is yet early in the season and that it will take some little time for the Eastern man to learn that the crop all over the United States is short, very short, and as he must have some at any cost, he will be willing to pay a good price for them. The man who has a good crop of peaches and has cured them properly has something which is better for him this year than a gold mine.—Oroville Register.

Fruit Prices at Various Points.

ANTIOCH, Aug. 26 —H. R. Lipman and A. F. Lobree, representing the firm of Rosenburg Bros. & Co. of San Francisco, were the successful bidders last Saturday afternoon in Brentwood for 200 tons of almonds controlled by the Contra Costa Almond Growers' Association. Five city firms put in bids. The amount of the sale was $35,000.—Ledger.

SAN JOSE, Aug. 26.—In fresh fruits the conditions are greatly relieved. Pears no longer go begging for buyers, and peaches for canning begin to be peaches again. The ideas of buyers and producers are not in harmony on cured prunes. Very limited contracts have been made on a 3c basis, less a commission, and offers for 40-50 size at 5½c are being accepted. This is only a ¾c premium on a 3c basis.—Tree and Vine.

WEST SIDE, Aug. 28.—The warm weather is excellent for those who are drying fruit. The prunes in this locality are exceptionally large, and most of the green fruit sold early brought $32 50 or $35 a ton. Very few sold under $30.

Deafness Cannot Be Cured

By local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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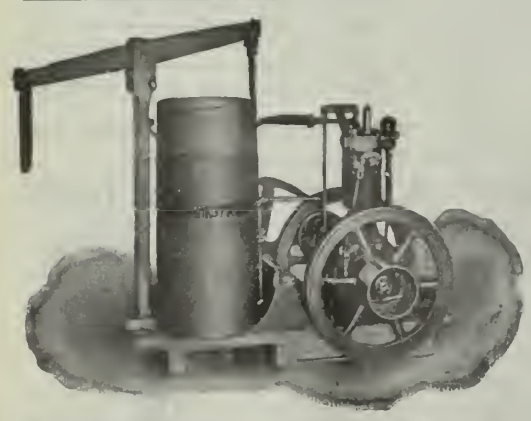
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Progressive Grange Notes.

Progressive Grange of Healdsburg had an excellent attendance at its last meeting, considering the busy season. Five names were added to its roll, and two were proposed for membership.

Anti-Trust and Pure Food Law petitions were circulated and all members present signed them. After these petitions are signed by the remainder of the members, they will be sent to our Representatives in Congress, with the hopes of securing unadulterated food and protection from the various trusts of the land.

The meeting of Sept. 2nd begins at 1:30 P. M. The young people meet at 1:15 for special work.

Napa Grangers' Harvest Festival.

The Grangers of Napa county have a large and active organization. They have been holding regular weekly meetings in the various schoolhouses over the county and on Aug. 22nd the last for the season was held at Brown's valley. At this meeting they decided to arrange for a harvest festival on Sept. 2nd. Hon. M. M. Estee of San Francisco, Hon. Theo. A. Bell of Napa, Worthy State Master W. W. Greer and Worthy District Inspector W. D. Winans will make addresses. The Grangers are contemplating opening a co-operative store at Napa and have already incorporated for that purpose.

An Orchard on Wheels.

"I am just now hard at work," said a New Orleans promoter, "on one of the biggest, brightest and most spectacular enterprises of the present day. It originates with an extensive orange grower of the lower coast. He suffered severely by the freeze of last season, but he is a man of unlimited resource, and he has thought up a scheme to wrest the spoils of winter from the clutch of nature. No, that isn't a quotation from the prospectus; it's a simple modest statement of fact. His proposition is to take a number of bearing orange trees and transplant them in cars specially prepared for their reception, making up special trains of say twenty cars apiece, which, averaging six trees each, to give them plenty of room, will make 120 trees to the train. While history does not record a succession of such severe winters as the last, still to be absolutely on the safe side, the intention is to keep the cars moving Floridaward, to the extreme southern point, and by staying always in the warm zone, positively insure the life and productiveness of the plant. Trees thus treated will yield double the usual quantity. But that is not all. As soon as the crop has reached maturity the trains will go North and the fruit sold direct from the trees."—New Orleans Times-Democrat.

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The Anaheim Disease in the Sacramento Valley.

Prof. Newton B. Pierce, assistant pathologist of the division of vegetable physiology, Washington, D. C., and Pacific coast laboratory at Santa Ana, who has devoted considerable time during the past six years to yearly visits and examinations of the orchards and vineyards of Butte and adjoining counties, is again at this point, and his investigations during the past week have established the fact that the dying out of the vineyards in this section of the State during the past six years is not due to any phylloxera or bacteriological infestment, but he is positively convinced that the same sporadic epidemic which first appeared at Anaheim, and thence spread among the vineyards of the southern counties, to the total destruction of 30,000 acres of vines, has made its appearance here. In his investigation of the Vina vineyard, formerly comprising 3000 acres of vines, he found that over 500 acres of vines had died with the same disease without apparent cause, and scientific investigation has so far failed to establish what causes the disease or a remedy for the disease, first called Anaheim disease, now known as the California vine disease. The total destruction of vineyards about Biggs owned by Daniel Streeter, C. M. Boulware, J. I. Lewis, the Thresher Bros. and many others along the Feather river and foothills is unquestionably due to this California vine disease, and unless Prof. Pierce in his constant investigation, research and experiment discovers a cause and remedy ere long, all but the most hardy vines are probably doomed.—Biggs Argus.

In a New Field.

The Sharples Company, manufacturers and dealers in cream separators and all kinds of creamery machinery, is now located at Nos. 28, 30 and 22 South Canal street, Chicago, Ill.

Realizing the advantage of a central location near to and in direct communication with all the dairy regions of the Ohio, Mississippi and Missouri valleys, the Sharples Company has established a Western office, salesroom and warehouse at the above location. The company is prepared to attend to the wants of their patrons, old and new, with their usual promptness and fidelity.

In the salesroom the display includes a sample of all kinds of machinery useful in the dairy, creamery and factory. A prominent place is given to some of the latest models of the Sharples tubular separators, the machine which is receiving more attention than any other in the creamery world to-day. The simplicity and resulting durability, together with the ease and safety in operation, which belong to this machine are at once apparent to any one familiar with modern creamery machinery. The tubular represents the perfection of skill in the manufacture of cream separators. There is in this section of the salesroom a full sample line of the latest Russian turbines and belt power separators, together with samples of the several different sizes of safety, hand and light power, cream separators. Another prominent place is given to the squeezer churn, in the large and small dairy and creamery sizes. This is a churn which combines such mechanical excellence and utility that it is meeting with great favor among progressive, practical dairymen and creamerymen.

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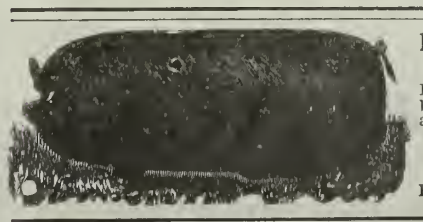


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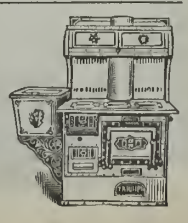
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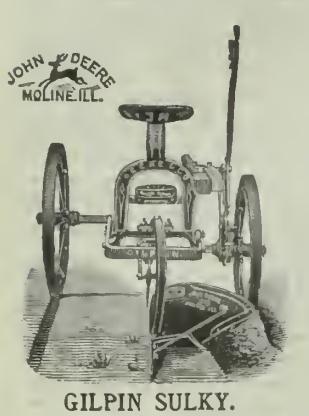
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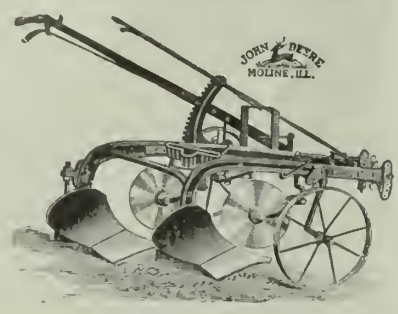


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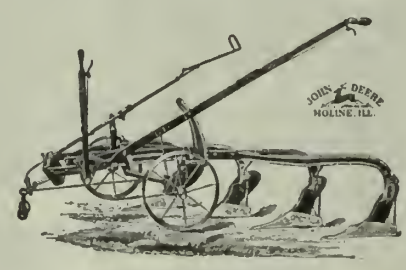
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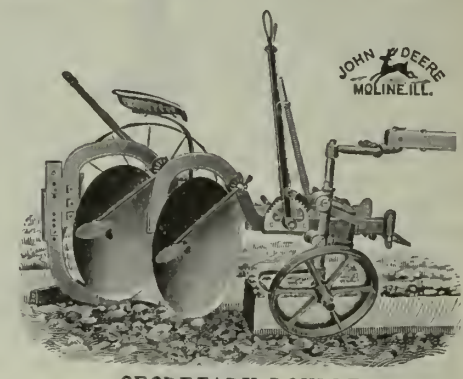
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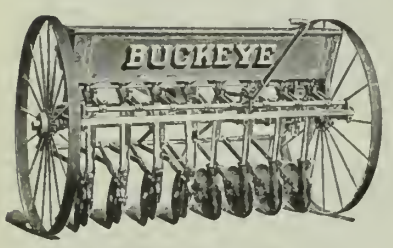
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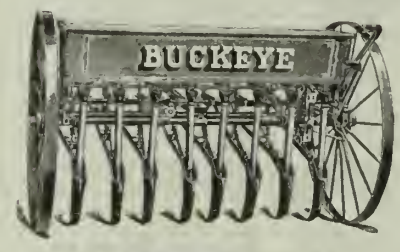
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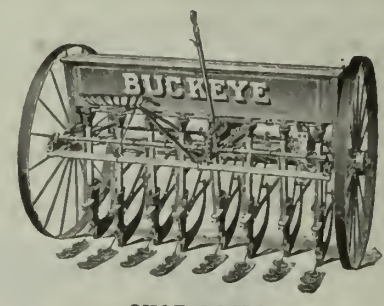


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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 11. SAN FRANCISCO, SATURDAY, SEPTEMBER 9, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

The Sugar Beet.

The sugar beet harvest is now progressing rapidly and the factories are in operation. Some will have but a short run because the unequal moisture conditions have not favored a full crop. It will take an old-fashioned winter to bring our beet sugar product up to the normal capacity of the State.



TYPICAL FORM OF SUGAR BEET.

There is also much trouble this year in the beet fields with abnormal development of the roots, some of which may be due to the peculiar features of the last two seasons and some perhaps to the outcropping of new diseases of the plant. This trouble has been noted for the last two months in the Watsonville and Alvarado districts and is now being studied by experts of the University Experiment Station, to whom appeal has been made by the growers. It is to be hoped that much of the trouble may be due to conditions which will pass away, although there are quite clear indications that parasitic agencies are at work at the plants.

We have on this page an engraving of a typical form of a satisfactory sugar beet. It is well nourished and healthy, and such beets are the delight of the grower and the sugar maker. The weight should be in the neighborhood of two pounds and the sugar percentage as much above 12 as the plants can gather. Above 20% is sometimes attained, and even 30% has been recorded for a small beet which had sugar out of proportion, as much because of its reduced growth as the energy of its sugar making.

The Combined Harvester.

The evolution of the combined harvester is one of the most interesting phases of recent mechanical progress as applied to agriculture in California. The whole history of this means of reducing cost of grain production to a minimum covers little more than a decade and a half, and yet the present forms are so far from the first as though a century divided them. To give our readers a chance to note this rapid development we have upon this page a view of one of the older forms of harvesters, which they can compare with the newer harvesters which have just finished their work in their neighborhoods. And yet even this machine was notable in its time, which was so few years ago, that one could hardly believe that its rapid, cheap work could be consistent with any tolerable excellence in results.

Stockton has always figured largely in the combined harvester industry, and the city is in the center of a region where nearly all kinds of harvesting machinery is used. This fact was recently brought to mind by a writer in the *Mail*. The ordinary combined harvester, drawn by from twenty-two to thirty horses or mules, and cutting a swath from 14 to 22 feet wide, is a familiar sight. The steam harvester is built on the same plan, except that it is propelled by a traction engine instead of horses. The use of steam makes it possible to enlarge the machine, and the most of them cut swaths from 25 to 30 feet wide. They are used mostly on the islands and in the tule lands, where the crop is heavy and the ordinary harvester would work at a disadvantage. Considerable objection is made to them by some, who say that it will be impossible to prevent them from setting fire to the grain fields, but their advocates declare that this danger is small and can be further reduced by improvements and extra care. The reaper is used also on the reclaimed lands by some who insist that there is less danger of rust if the grain is harvested early, and at the time it can be cut with a reaper the weeds are not so large and therefore the wheat will be cleaner. Furthermore, there are many who claim that our custom of letting the grain stand in the field until it is ripe, as must be done if the common methods of harvesting are employed, is wasteful, because much of the grain shells out and is lost, and so it would be economy to use reapers and cut the grain before it is entirely ripe, thus saving the entire crop. Others argue that on big ranches very little of the grain could be cut before it would ripen unless a large number of reapers were purchased, and therefore the present method is no more expensive, even counting the waste, than the use of reapers would be. It should not be supposed that the header is altogether obsolete. At the various repair shops stationary engines can be seen awaiting repairs, and a number of threshing machines are in operation, which means that a considerable part of the grain has been cut with headers. On hilly land, in small fields, and where there are many trees, the combined harvester is too unwieldy to be used to advantage. In the neighborhood of Clements it is said that about half the grain is being cut with headers, although around Stockton the odd-looking machines are almost a curiosity.



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E. J. WICKSON.....Horticultural Editor.

San Francisco, September 9, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The days are fast assuming an autumnal character. Late fruits are coming in, the air is losing the elements of swelter in the interior and of chill upon the coast. The time is coming when the least daily variation and the least difference between regions will be heeded. The delightful weather is very propitious for the State Fair, which is now in progress in Sacramento. A run to the capital this week or next will be a delightful change for those who have been hard at work all summer.

Mr. Alfred Holman, for several years connected with the PACIFIC RURAL PRESS, has assumed similar editorial charge of the San Jose *Mercury*, acquiring a property interest in that excellent paper. Mr. Holman is a forceful writer on all public questions, of capacity commensurate with any requirements, and Santa Clara county—and California in general—is to be congratulated on the determination of Mr. Holman to remain in a field so worthy of his talents.

Markets are rather quiet this week. Wheat is drooping a little here. There are still no ships available and bears have the advantage. The distant wheat situation seems, however, to be improving. Barley is a shade firmer and buyers seem inclined to take hold again, and rye is also being taken by exporters. Oats and corn are unchanged. Millstuffs are unchanged in tone and price. Hay is still crowding in, with no storage room available and the situation as bad as ever. Hogs are arriving more freely from beyond State lines; meats generally are stationary. The butter market is reported easier because of the turn of consumption upon storage butter. Fancy eggs are higher, but common eggs are very plenty. Poultry is weak owing to large Eastern receipts. Two firms are now operating and intend to place all possible stock on this side. Potatoes have rather better demand, but onions are weakening, as buying from Australia has ceased. A lot of old hops has been taken for Australia. Few new hops are selling and there is abundant talk about the large product abroad. Good fresh fruit sells fairly. The dried peach market is in poor shape just at present. Fancy lots sell, but receipts of common and poor grades are accumulating. A little wool is going to Japan. A little trade is going on in scoured wool, but all seem to be waiting for the fall clip before doing any serious trading.

East and West.

We have commented once in a while upon the sentiment which crops out in Eastern journals that the proposed development of the arid West upon an irrigation basis will result in starvation to the East because of competition with the vast food supplies which will be sent to Eastern markets from this new producing expanse. Eastern people are then exhorted to believe that it would be suicidal to them to allow the Government to improve its large Western properties or to give them to the enveloping States for the purpose of improvement. We have opposed this claim with the statement that every Western improvement reacts upon the prosperity of the East, employs Eastern capital, gives new opportunity to Eastern youth and that in fact a nation cannot afford to hold good property unimproved and unproductive any more than a citizen can afford to neglect his back lots when the opportunity arises for their improvement and productiveness.

We are pleased that this proposition is commanding wider attention eastward and has now cropped strongly in the Middle West. The argument in the St. Louis *Manufacturer* is interesting. We quote a fraction as follows:

How do the crops of southern California, raised by irrigation, affect the farmer's market of the East? The principal products are oranges, lemons, olives, grapes, raisins, wheat, dried apricots, peaches, etc. The fruit products of southern California amounted last year to $21,000,000 and her fruit which comes East does not to any extent compete with the Eastern farmer.

Fresh fruit which is shipped through is sold as a luxury and at fancy prices. The eastern farmer has not even contributed in any degree to that $21,000,000 to southern California's wealth; that has been paid by the cities and the comparatively wealthy class. And so it is throughout the far West, with irrigation.

On expensive irrigation land extensive farming is practiced, fruit is raised and coarse field crops are not grown with greatest profit. If the millions of acres of the West were reclaimed through water they would not be planted to corn and wheat to compete with the Eastern and Central States. Moreover such wheat, flour and the like as are raised West now find an outlet by the Pacific and have an awakening market in the Orient with its 700,000,000 consumers, instead of being shipped to Liverpool to add their weight to the surplus.

But the keynote has not yet been struck. What has become of the $21,000,000 sent to southern California? Has it been deposited in banks and businesses and left in the West? Has it been $21,000,000 drained out of the East and locked in California. It has been immediately sent East again to purchase manufactured articles of all sorts, and the manufacture of these articles in the East keeps employes busy and these employes consume the products of the eastern farmer. There can be no successful denial of the statement that the opening of the West, through irrigation or otherwise would further develop the East through stimulating her manufacturing industries, which are themselves dependent upon eastern farm products.

The writer is confused as to his figures, but that does not vitiate his argument. The fruit products of southern California do not reach a value of twenty-one millions, but probably about half that amount. Nor will twenty-one millions do for the fruit product of the whole State, for that is about thirty millions. Of course, something depends upon where you draw the line between northern and southern California. The best way is not to draw any line at all and simply include the State as a whole in such transactions. With such a comment on figures, the argument will stand and is very significant.

THOSE who were working last winter for the enactment of a fertilizer control law, which this State so much needs, will be interested in what the New York Legislature has just done in the same line. According to the *Rural New Yorker*, several radical changes have been made. Formerly fertilizers which sold at less than $10 per ton were exempt from the law. They were not sampled and analyzed. As a result some frauds were put on the market at $9 a ton. The limit of selling price is now $5 a ton, and this will keep out several mixtures that had no merit except a low price. In many cases it would interfere with the sale of dried chicken manure. Another good thing is the brand tax. Every brand bearing a distinctive name must be licensed by the payment of a fee of $20. The object of this is to decrease the number of brands offered for sale. Manufacturers have been in the habit of putting up dozens of different brands of fertilizers, practically taking them out of the same bin, but giving different names to please local agents. This has proved confusing to farmers, and expensive to the State. The $20 fee will soon cut down the number of brands and put the business on a more sensible basis. Californians should note these facts. They will be interesting to remember a year from next January.

THE Crocker proposition to buy wine grapes for a number of years at a good price has been turned down by the growers. As Mr. Crocker is reported to have said, the scheme was so big that its weight killed it. It created a boom in grapes, and the result was that the winemakers would offer the growers the same price and sometimes higher than Mr. Crocker had made, but they would not bind themselves to do so for longer than a year. People thought that if Mr. Crocker was able to give such a high price there must be an enormous profit in it; so, after they were assured of a high price for the present year's crop, they said that the grape outlook was good, and there was no need for them to enter into a contract for seven years, because prices might be higher next year. The proposition has at least accomplished one good thing, and that is that prices for this year will be good. Thus another effort to concentrate a California product has gone into history. We do not propose to reproach the growers. Though the chance to make the crop profitable for seven years seemed good, we hope they will do better even than that. They were largely unanimous, for only a very small fraction of the growers signed a contract.

COLLECTION of exhibits for the Paris Exposition is proceeding rapidly in different parts of the State. The California State Commission has desired to have all exhibits assembled in San Francisco by Sept. 15th, but that will be rather hard to accomplish. The commissioners have their agents busy at pushing things and will come pretty near their dates we presume. Southern California is making up her collections. Secretary Wiggins of the Los Angeles Chamber of Commerce has received orders from the State Commission to arrange twenty-five jars of fruit for the exposition proper. These are now being prepared. They comprise pears, peaches, watermelons, apricots, etc., in their natural colors, slightly heightened by the prepared liquor in which they are pickled, and present a most tempting appearance.

THERE is some apprehension of the grape crop in Yolo county, owing to the cool summer. August was the coolest month for 23 years and the coolness continues. In size and color the grapes are all that could be desired, but owing to the cool weather there is a lack of sugar. Besides, the grape crop will be late and there is much concern lest the crop ripens too late to obtain the best results.

THE prune growers' meeting in San Jose last Saturday is outlined upon another page. It was a good meeting and accomplished something. Assurance was given that small growers needing money need not force their production upon the market in that district at least, for advances could be secured at a low rate of interest.

THE Colusa *Sun* says it is Walter Read's almond hulling machine which has made the fruit-pit business possible, and it is money in the pockets of apricot growers. Peach pits are also hulled by the machine and they are valuable in making prussic acid. The export of this year will be considerable.

AS A practical test of the drying value of the Splendor prune, of which analysis was given in last week's PACIFIC RURAL PRESS, the results obtained by Leonard Coates of Napa are pertinent. He writes us that from 47½ pounds fresh he secured 23 pounds cured weight.

THE largest transfer of wine made in Sonoma for years was by H. B. Chase, who assigned to the California Wine Makers' Corporation 100,000 of red and 22,000 gallons of white dry wines, located in the former's cellars in Alexander valley.

QUERIES AND REPLIES.

Brown Apricot Scale at Healdsburg.

To the Editor:—I note what you say in the Pacific Rural Press of Aug. 26 in answer to my question about scale samples sent you. Two years ago W. N. Gladden went to Santa Clara to ascertain, if possible, some means of exterminating the brown apricot scale. It seems that the best results obtained were from the parasite which you mention. After his return there were sent to him several boxes of twigs covered with the scale containing the parasite ready to hatch. Some few I found hatched in the box when I distributed them in my orchard. They resembled a flea as near as anything. In hatching out of the scale they left a small hole the size of a pin head. I have examined hundreds of scale since and have not been able to find a hole in one; neither have I seen one of the parasites. I have not heard what success others have had that used them.

I intend to cut off the principal parts of the tops of the trees, as there is not a healthy look to any of them. At what time would it be safe to top them so that they would put out new shoots in the spring?—Grower, Healdsburg.

It is probable from what you say that you cannot depend upon this San Jose parasite. The opinion is divided as to its efficacy, as the reduction of the scale seems to be very rapid in one locality and very slow in another. Undoubtedly you are right in your proposed treatment of your trees. The best time to cut back the trees to secure a vigorous growth of new wood is near the close of the dormant season. This, of course, brings the work into the middle of winter, at the time of your most heavy rains, and it would do no harm to cut back earlier, while you have good grounds to work upon. If the cutting back, then, was done in October or November, the stubs painted to prevent checking of the wood, and the stumps thoroughly cleaned and given a good coat of lime, salt and sulphur, it would constitute a very satisfactory treatment. Of course, unless the lime shows pretty white at the beginning of the growing season it would be well to whitewash, so that the trees will not suffer from sunburn on the exposed bark.

Grass for Low, Moist Land.

To the Editor:—I want to plant some land to oats and wheat this fall for hay and have the land for pasture afterward. Will you please let me know what grass seeds, if any, should be planted for this purpose, and whether they should be planted at the same time as the grain or not. The land is near Santa Rosa, level and rather wet in winter and spring.—Farmer, San Francisco.

The two grasses which you can use to the best advantage in the way you describe are Australian Rye grass and Orchard grass. It is quite a question whether the grass seed could be sown to advantage with another crop. It would be altogether wrong in most parts of the State, but is probably permissible and may, in fact, be of some advantage in the situation of which you speak, where you have ample moisture. On the whole, we think that the Australian, which is a variety of an English Rye grass, would be best for your use. It is the grass which makes most wonderful growth with sewerage irrigation in connection with eastern and European cities, and it will endure submergence, which your land will possibly meet with in winter. At the same time it is exceedingly hardy in the matter of drouth, and will retain life in the roots all during the summer time, even in the baked, dry summer soils, and will start quickly with the first Autumn rain. This grass will not endure the driest situations in California, but seems excellently adapted to the conditions which you describe.

Phylloxera.

To the Editor:—I send you by mail a parcel of small roots cut from vines that appear to be diseased, some more and some less, but all undoubtedly suffering from same disease. Some time ago, thinking the trouble might be mildew, I sprayed the affected vines with Bordeaux mixture and gave them a slight watering, in the belief that, if mildew was the cause, the treatment given would probably cause fresh growth; but I have to report that, although the vines look fresher, the improvement is not enough to give encouragement to that belief.—John Dixon, Santa Rosa.

It is a case of phylloxera: the lemon-colored lice are very abundant on the samples sent, and your only recourse is to have a new vineyard on resistant roots. Stimulants like the Bordeaux, which is really a plant tonic as well as a fungicide, and water and fertilizers may give a diseased vine a push forward for a time, but the phylloxera only enjoys its increased opportunity and multiplies accordingly. No vinifera vine can cope with it.

Saltbush Seed.

To the Editor:—I send you some seed of saltbush, but I think they are hardly ripe; at any rate, they have fallen on the ground. Perhaps they mature when on the ground. Can you inform me what variety this is and in what way the seed is gathered?—Subscriber, Elk Grove.

The seed is that of the Australian saltbush (*Atriplex semibaccata*). It is a very excellent sample; very large and vigorous. If it could be kept bright by collecting on cloth or something of that sort, and dry without darkening, it would constitute a first-class commercial seed, for which there is at the present time quite a demand among seedsmen. The seed is collected by spreading sheets of paper or cloth under the plants and allowing them to remain there, giving the plant a good shaking just before taking up the seed, which should be done at intervals of a few days. This seems to be the only way to get the seed, because it ripens and falls successively, and to cut the plant for the purpose of securing the seed gives so many imperfect specimens that the germanation percentage is low.

Seeds Wanted.

To the Editor:—Where can I get Polish rye seed, meadow oat grass and malva tree seed, all of which were mentioned in late issues of the Rural Press, as valuable for stock feed?—Old Subscriber, Healdsburg.

Polish rye or giant rye or wild goose wheat—for it has all these names and more—can usually be had from seedsmen. It is a very large, coarse variety and is not usually considered of much value, though it may serve a good purpose, as Mr. Emmert of Dunnigan thinks. Perhaps he can supply the seed. Tall meadow oat grass is handled by our seedsmen and it ought to be very widely tried. Tree malva seed can usually be collected in village gardens. We should be surprised if Healdsburg did not have plenty of it.

Cultivation or Non-Cultivation.

To the Editor.—Can you tell how those cultivated and non-cultivated apricot orchards came out this year. You remember the Pacific Rural Press gave the results of comparison of the amounts of moisture in the two soils from investigations made by the University Experiment Station.—Orchardist, San Jose.

We remember very distinctly. The two orchards were side by side at Niles; one had good fruit on cultivated ground, the other had worthless fruit on uncultivated ground, etc. Unfortunately for science it was not possible to trace the behavior of the trees this year under contrasted conditions, for the owner of the uncultured orchard took the hint, forsook his false faith and gave his ground an everlasting amount of stirring up. He probably did not care to stand any longer as a frightful example of how not to do it.

Apple Mildew in the Far North.

To the Editor:—I send you specimens of diseased apple twigs. Will you name the disease and describe the treatment?—Rancher, Adin, Modoc county.

The trouble with the twigs is what is known as powdery mildew of the apple. It has been very prevalent this year throughout the State—this year more than ever before in our observation. The proper treatment is to blow sulphur into the foliage just as it is opening in the spring, and once or twice later during the summer time, if the new growth continues to show the shriveling and whitish covering. This is the simplest prescription that can be applied to the class of fungi to which this mildew belongs.

Bermuda Grass for Bay Hillside.

To the Editor:—Will you please inform me whether there is a grass which is acceptable to the soil of hillsides around the bay? The land is now grown up with wild oat, and other similar grasses which are hard to control. I desire to supplant these for rough park purposes with a hardy grass—a grass having large rooting properties and with but little top. I want a grass that will withstand the dry weather. I have been informed that Bermuda grass would answer, but as I have had no experience with it in this climate, I would ask you to give me such information as you may have on the subject.—Benefactor, San Francisco.

Probably there is nothing better to meet all the conditions, which you describe, than Bermuda grass. It will maintain its life all summer on the dry hillsides around the bay, because of the atmospheric moisture which prevails. It makes a low, prostrate growth, which is another point that you make. It will, however, not stand much frost, turning brown at the approach of the freezing point, although the life of the plant would be maintained at a much lower degree. It will stand any temperature that we have to deal with about the Bay of San Francisco. One difficulty about Bermuda grass for your purpose is, that it does not seed freely. It is usually propagated by pieces of root; the roots are gathered and cut up in a hay cutter, each piece making a plant. These pieces are broadcasted after plowing, and covered with the harrow, and will make a very good stand. Probably you do not count upon plowing the land, but simply trusting to a catch of a scattering of seed. For this purpose Bermuda grass is not well adapted. You might, however, get a stand of the grass without plowing by putting in small roots here and there. It is very aggressive and when rooted is impossible to eradicate it and very difficult to keep within bounds.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Sept. 4, 1899.

Alexander McAdie, Forecast Official and Station Director.

The general temperature continues slightly below normal, except in southern California, but has been generally higher than during the preceding week. There was a light shower at Eureka. Grapes are ripening rapidly and picking has commenced in some sections. The first crop of raisin grapes will be light, but the second crop promises a good yield, though late. Late peaches and quinces are ripening and will yield a good crop. Prunes are yielding better than estimated. Harvesting and threshing are completed, except in a few localities, and hay baling is nearly finished. Hop picking is progressing. Corn is filling out well and promises a good crop. Sheep shearing has commenced. High winds and sandstorms on the 2nd caused slight damage to fruit in portions of the San Joaquin valley.

Sacramento Valley.

Condltions bave been favorable for fruit drying and good progress has been made. Grapes are ripening slowly. There will be a large yield of the table varieties. Oranges and olives sbow a bealthy growth and there are indications of a good crop. Late peaches are ripe. Harvesting is completed and threshing nearly over. Most of the graln is stored. Almonds are being gathered. Nuts are up to the standard and tbe yield is large. Sheep shearing bas commenced.

Coast and Bay Sections.

Cling peaches and prunes are ripening. There will be a falr crop, of fine quality. Prune gathering and drying progressing. The yield is better than estimated. Wine grapes are looking remarkably well, but warmer weather would be beneficial. Harvesting and tbreshing are completed, except in a few scattered localities. The hay crop is large and of good quality. Corn bas filled out well and will make a heavy crop. Hop pickling is in progress. Tbere is a fair crop of potatoes.

San Joaquin Valley.

Raisin grapes are maturing rapidly and pickling has commenced in some sections; the first crop will be light. The second crop will be large, but late in maturing. Deciduous fruits were somewhat damaged by higb winds on the 2nd. Prune picking and drying are progressing; there is a good crop, excellent in quality. Harvesting and thresbing are completed. Both crops are abundant, and the quality is excellent. Hay baling is still progressing. The third crop of alfalfa is being cut. Egyptlan and Indian corn are doing well. Potatoes are plentiful and of good quality.

Southern California.

Conditlons bave been generally favorable for maturing grapes and otber fruits. Wine making will begin soon. Tomatoes are ripening rapidly There is a large yield of the second crop of strawberries. Light fogs and tbe absence of drying winds have been of considerable benefit to fruit trees. The water supply is still holding out fairly well, and an abundance can be secured by pumping.

Eureka Summary.—Rain has retarded threshing and probably damaged grain in fields and straw not baled. Some blight among potatoes; fruit maturing rapidly; prune crop will be heavy.

Los Angeles Summary.—Warm weather is hard on corn and beans, but good for fruit drying. Prune drying has begun. Almonds about all gathered; fair crop. Thunderstorms in the mountains of the extreme south.

The following data for the week ending 5 A. M. Wednesday, September 6, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week	Maximum Temperature for the Week.....
Eureka.....	.74	1.15	.06	.45	46	70
Red Bluff.....	.00	.02	.16	.22	56	100
Sacramento.....	.00	.02	.00	.07	50	90
San Francisco.....	.00	T	T	.10	50	66
Fresno.....	.00	.00	.00	.08	52	98
Independence.....	.00	.07	.11	.10	56	94
San Luis Obispo....	.00	.00	.00	.18	48	84
Los Angeles.....	.00	.02	.07	.08	52	88
San Diego.....	.00	.06	.00	.07	54	74
Yuma.....	.00	.06	.00	.55	72	112

HORTICULTURE.

Semi-Tropical Fruits.

By W. M. SHELDON of San Diego at the San Diego County Horticultural Society at Escondido.

I have been requested to bring a few ideas in regard to semi-tropical fruits and will mention first:

The Cherimoyer.—It is a small, bushy tree, bearing delicious fruits from one-half to three pounds in weight, rough and scaly on the outside, but full of a rich custard. This fruit is, we think, designed to be widely known in the near future. It already brings high prices in the markets of Santa Barbara and Los Angeles. Several trees that have fruited near San Diego show that there are possibilities in it that are not generally known. As all the trees were grown from the seed, they vary somewhat in growth, leaf, fruit, and time of fruiting; so that if great care were taken in planting, it would be possible to have fruit for several months in the year. Possibly by methods of trimming the time of fruiting of each tree could be prolonged. It is deciduous, though practically evergreen. It is a constant grower and will stand a light frost.

The Mango has been fruited in San Diego in quite a windy, though frostless place. It is a very delicious fruit and delights in loamy or sandy soil.

Pineapples.—Pineapples have been fruited with more or less success in southern California for a number of years, and we think their culture is destined to be greatly increased, as the conditions necessary for success become better understood. It has been found that plants brought from Florida or Honolulu did not usually fruit under two years, but suckers from such plants after becoming acclimated produced fruit here as quickly as in other countries. So we see that a plant changed from one country to another will take time to adapt its habits of growth to the new environments, and, like people, must be acclimated before they do their best. They can be fruited every day in the year, or most of them can be produced at the time of year when the price is highest, by planting at a certain time. The pineapple does not have any dormant period. A healthy growth is a continuous, vigorous growth. Protection from wind, frost and too hot sunshine is considered highly essential, and can be accomplished by growing in a lath house. Well drained, sandy or loamy soil is to be preferred for them. The smooth Cayenne is considered the best kind, with the Abbaka coming as a good second. They are generally planted 2 feet apart each way, with paths every 10 feet or so, to enable the cultivation to be done without tramping on the ground. About 10,000 plants can thus be planted on an acre. A lath house costs from $300 to $600 an acre.

The Alligator Pear is a beautiful tree, bearing pear-shaped fruit of a rich purple or green color, sometimes two pounds in weight. It is a rich food and one of the most important fruits of the tropics. It can be compared to beef marrow, but has a distinct flavor of its own. It is a rank grower, and needs plenty of root room. Should the tap root strike rock or hardpan, the fruit will drop. It needs well-drained soil. These fruits are now picked green in Honolulu and shipped to Los Angeles and sold at 40 cents each. You can sell any surplus, but after your family is familiar with it you will buy some one's else surplus. [Mr. Sheldon then quotes from an article on Alligator pears by W. S. Lyon. See RURAL PRESS of July 15.]

The Date Palm has been successfully fruited in several places. One tree has furnished over 300 pounds of fruit, while another brought forth fruit without seeds. Enough are now in bearing to show that it will pay to plant the date palm for fruit as well as ornamental purposes. It is known that they will grow well in salty and alkali soils. They do the best where it is hot overhead and moist underground.

The agricultural department is now planting a large experimental orchard in Arizona for the purpose of proving what varieties and treatment will do best in this country.

The Banana is gradually becoming one of the many fruits necessary to be planted in a southern California garden. They often fruit when planted on the east side of a house where they are deprived of the afternoon sun, showing that if given a warm nook with rich soil and sheltered from severe winds and frost the result would be much better than usual. One man grew a fine bunch of 360 Hawaiian bananas for Thanksgiving, and for frost protection used only a cloth covering a few cold nights in the winter. Hart's Choice, or Cavendish, are recommended as varieties that do well.

The Sapodilla has a fruit much like a russet apple in appearance, but is very juicy and sweet. It will stand as much frost as the lemon and is worthy of extensive planting. This tree is well known at Santa Barbara and Los Angeles, where it has been fruited for a number of years. The first tree to fruit can be seen at the residence of Dr. De Foe, San Diego. It hangs full of fruit and is only about four years old. This tree is a broad-leaved evergreen, is a rapid grower and somewhat resembles the walnut in appearance.

The Carob tree of the Mediterranean region grows to a height of 30 feet, and resists drouth well. The saccharine pods are called St. John's bread, and are a valuable food for domestic animals. The meat of sheep and pigs is greatly improved in flavor by this food, while its fattening properties are twice that of oilcake. It is highly prized in the Hawaiian islands.

While we urge the culture of new fruits, no one should think of planting without securing the advice of some expert, or other knowledge that will insure success—haphazard planting is almost a crime. If one-tenth of the money now spent by individuals could be united under the best auspices, much better results toward the development of the country could be obtained than at present. We need more unselfish patriotism in regard to experimental stations in this section, as those in authority do not seem to be ready to help us.

A Yellow Cling Peach.

TO THE EDITOR:—I send you some peaches for your examination and criticism. If the peaches have a name I do not know it, and leave it to you to settle that. The tree is probably forty years old, and being very full this year, these samples do not fully represent the size of the peach. I wish to call your attention to the uniform color of the flesh of the peach, to the smallness of the pit, and to its excellent flavor. I would be pleased to hear from you, as I regard this peach as superior to either the Lemon or Orange Cling. J. E. METZGER.

Geyserville.

[The fruit is not familiar to us and it is possibly a seedling. It is a very good medium sized cling: light golden color, both skin and flesh, and very little coloration the pit, which is small. The flavor is excellent. It has a very fine and finished exterior aspect and would be selected for beauty. It would make a very satisfactory canning peach and is worthy of propagation and trial.—ED.]

THE POULTRY YARD.

Houses for Belgian Hares.

Belgian hares have no feathers, but they seem about the most popular birds that are going nowadays, and many poultrymen are going into them. An account of the kind of hutches which are being used in southern California, where the hares are booming, is of interest, and we find in the writing of J. F. Willey for the Los Angeles *Cultivator:*

Cleanliness.—The hutch should be kept clean, as the strong gases from the excrement are very injurious, and, when a quantity of filth is allowed to accumulate, will almost smother the little inmate, and often causes snuffles. Small hutches should be brushed out daily, and larger ones according to floor space. It is a good plan to put clean sand or sandy earth over the bottom of the hutch after brushing out. It absorbs moisture, has a cleansing effect and pleases the rabbit. Straw (without beards) makes good bedding.

Arrangement.—The apartments should be so arranged that you can feed, clean, etc., with the least possible trouble. Although Belgians are very profitable, it is not necessary to do double work for that profit. Have the runs built in a row in such a manner that the side of one makes the side of the next, and so on. Have all your doors to open the same way and in the same end of the run. All feeding vessels should be near the door. If you use the 3x4-foot breeding hutches in addition to runs, place them just across rabbitry walk, with doors facing doors of runs. When using runs altogether, have half of them on either side of walk.

Expense.—Under this heading comes first the price list of material as lately given out by some leading firms in Los Angeles:

WIRE NETTING.		*Square feet.*
2-inch mesh, roll (150 linear feet)	$ 55	per 100
2-inch mesh, cut	¾	per 1
1-inch mesh, roll (150 linear feet)	1 50	per 100
1-inch mesh, cut	1½	per 1
GALVANIZED WIRE SCREEN.		
14 or 16 mesh, roll (100 linear feet)	2 50	per 100
14 or 16 mesh, cut	3	per 1
REDWOOD LUMBER.		*Per 1000 feet.*
Ro. Mch., 1x3 to 1x8	21 00	
Ro. Mch., 1x12	23 00	
Ro. Mch., Nos. 2 and 5 feet or under	19 00	
PINE FLOORING NO. 1.		
1x6	30 00	
1x4	32 00	
Pine flooring No. 2, all sizes	27 00	
Shingles, plain	2 50	
Shakes, split	14 00	

One thousand shingles will cover 100 square feet, 1000 shakes about 800 square feet.

Construction.—Each hutch or run on the ground will require a framework as follows: A sill 1x2 inches or larger, according to strength required, all around the bottom, a rail 1x2 inches or larger around the top, an upright at each corner, and frame of 1x2 or 1x3-inch stuff for door, which may be in the end or on top of hutch, according to circumstances. We will first take the 3x4-foot hutch on the ground and make it 2 feet high. For this we will need four pieces 1x2 inches, 4 feet long; four pieces 1x2 inches, 4 feet long; four pieces 1x2 inches, 2 feet long; then for a door in one end we will need two pieces 1x2 inches, 3 feet long, and two pieces 1x2 inches, 2 feet long—in all, 8 board feet, which can be had in short lengths at $19 per 1000; total cost of frame, 15 cents. Two-inch wire for bottom, 12 feet square, at ¾ cent, 9 cents; 1-inch wire for sides, top and door, 40 square feet at 1½ cents, 60 cents; one pair hinges, 5 cents; one hasp, 10 cents; nails, 5 cents; total cost of material for one hutch, $1.04. Each succeeding hutch in a row would cost only 85 cents, as each hutch supplies one side of the next. If screen wire is used for sides, add 42 cents for the first and 30 cents for each succeeding hutch. For redwood floor add 20 cents per hutch; for regulation flooring add, for 1x6-inch, 40 cents, and 1x4-inch, 45 cents per hutch. For cement add 5 cents per square foot, or more, according to thickness of floor. Hutches in tiers with watertight floors (which must be of best material) will, according to quality of material used in other parts, workmanship, etc., cost from $1.40 up, each. Runs 2x8 feet and 2 feet high, with wire bottom, can be built for $1.45 for the first and $1.15 for each succeeding one in a row. These and larger ones may be built to cost more, of course, according to the size of same and quality of material.

A More Costly Outfit.—A model though somewhat expensive rabbitry may be built as follows: First, a shed roof on 8-foot base (preferably with back to the north), 7 feet above ground at the rear and 10 feet in front, covered with shingles; then, commencing 4 feet in front of this, build another shed on 20-foot base, 7 feet above ground at rear and 16½ feet in front. Under the first shed construct three stories of hutches, back to be flush with rear posts of shed; each hutch 4 feet deep, 2 feet high and 3 feet front, 20 inches of front to be a door, supplied with a padlock; remaining 16 inches a panel, both covered with wire. The lumber in these hutches must be of best quality flooring and the partitions double surfaced. Under the larger shed build runs 2½ feet wide, 16 feet long and 5½ or 6 feet high. The floors in these runs may be of wire, covered with earth, or of cement. In either case use a coating of clean sand that can be removed and renewed, and over this good wheat straw, oat straw or prairie hay for bedding. Put down a good cement floor in the 8-foot space between hutches and runs, and also in 5-foot space in front of the latter. Have a door, supplied with a lock, in each end of runs, also a portable door in middle of same; then on occasion you can double the number of spaces. Have an awning on front of small shed that will close, when let down, space between the two sheds. Front of large shed should also have canvas curtain. At the back, above hutches, and at each end of rabbitry, 4 or 5 feet above ground, arrange sliding doors or windows, each with a curtain; then you can shut out wind or sun, or both, if necessary.

The Cheapest Start.—The cheapest hutch I know of is a dry goods box, of suitable size, made over. This can be purchased for about 25 cents, and 25 cents more will make it over. Cheap enough for a starter. Some people economically inclined never use anything more elaborate.

An Egg Preservatory at Pleasanton.

Pleasanton, says the *Times*, is soon to have a new industry, known as the Pleasanton Egg Preserving Company. The firm name will be J. Foley & Co., and the business will be carried on in a factory to be erected on the Foley place, on the outskirts of the town of Pleasanton.

Some time ago, when Mr. Foley was in the East, he obtained the receipt for the process from a friend, who was willing that it should be taken to this State and a company formed for the business. Since his return from the East Mr. Foley has tried the process and knows that it is all that it is represented to be. Ten months ago he packed ten dozen eggs in the preparation, and this week some of them were taken out and given to an expert in San Francisco, who pronounced them to be fresh ranch eggs. Last year sixty dozen eggs were packed by one of the men interested in the project, and they, like the former lot, are as fresh as when newly laid.

The company intends to build a cellar 20x100 feet, 4 feet being above and 4 feet below ground. A concrete floor will be laid, thereby making a cool place. Bins about 4 feet long by 3 feet wide and 2 feet deep are to be built in long tiers as storage vats. The contemplated structure will be large enough to hold 50,000 dozen eggs, which number will be put down next year. It is the intention of the company to commence on the building as soon as the rains come, so that the digging of the cellar will be easy.

A branch plant will probably be built at Petaluma, where eggs are plentiful, in the course of three years. There are three Pleasanton people interested in the new industry, each putting in $1000.

THE VETERINARIAN.

New Tuberculosis Policy in Massachusetts.

As Massachusetts has figured so prominently in the evolution of public policy toward bovine tuberculosis in this country, it is interesting to look upon the latest phase of the matter there, as described by Austin Peters for the *Orange Judd Farmer*. The principal changes in the Massachusetts law relating to bovine tuberculosis and contagious diseases generally are reducing the Board of Cattle Commissioners from five to three members, reducing the maximum limit of compensation from $60 to $40, bringing the inspectors of animals more directly under the Board of Cattle Commissioners by doing away with the intervention of the local boards of health and relieving the cattle commission from extraneous work by having local boards of health perform certain duties in connection with licensing slaughter houses and receiving returns upon slaughtered animals that formerly devolved upon the commission. The receiving duplicates of licenses of slaughter houses, and the returns of inspections of slaughtered animals from local inspectors, made a good deal of extra work in the office of the cattle commission.

Independent of the Board of Health.—Another feature of the present law is that the inspectors and the public deal directly with the cattle commission, instead of through the intervention of the boards of health. The present law requires individuals to report to the cattle commission, or inspector of animals direct, and the inspector of animals deals directly with the cattle commission, thus doing away with a great deal of red tape, and frequently avoiding vexatious delays. The local inspection of herds will not be materially affected by the new law. It provides, as did the old one, that inspectors shall, from time to time, make careful and thorough inspections of animals, at such times and in such manner as the board of cattle commissioners shall direct. The position of the cattle commission as now constituted is a conservative one. It does not wish any cattle put in quarantine by the local inspectors unless the animals show physical evidence of disease in a well marked form, or have tuberculous udders, and is opposed to the wholesale testing of cattle with tuberculin in opposition to the owner's wishes, or at his request, if he is not in a position and anxious to really eliminate tuberculosis from his herd.

Without Tuberculin.—While the board believes in the great value of tuberculin as a diagnostic agent, and its harmlessness when properly prepared and applied, at the same time it is of the opinion that many cases of tuberculosis among cattle can be diagnosed upon a physical examination without going to the expense of a tuberculin test, and on the other hand that it is unwise and extravagant to test an animal with tuberculin that is in apparently perfect physical condition, and kill it as diseased if it reacts. In some doubtful cases it may be necessary to use tuberculin as a diagnostic agent in order to decide positively whether a creature is or is not tuberculous. There is now a proviso in the law that the carcasses of very slightly diseased animals may be safely utilized for beef, and the maximum limit of value is now reduced from $60 to $40. Until a better diagnostic agent than tuberculin is discovered, the Board of Cattle Commissioners will require all neat cattle brought into the State to be tested with tuberculin, at the expense of the owner, except cattle for immediate slaughter or calves under six months old. Cattle driven into Massachusetts for the summer to pasture, which the owners wish to take out of the State in the autumn, do not have to be tested if kept apart from Massachusetts cattle; but the owners must secure permits to bring them into the State.

Answers by Dr. Creely.

Ovine Anthrax.

To the Editor:—Can you give any remedy for sheep that die from a disease which generally takes the fattest of the flock, and the sheep invariably passes blood in the urine just before it dies? The sheep generally dies within a few minutes from the time you notice it is sick. I would like to know what this disease is called, what caused by and if there is any remedy. It seems to be common in certain localities in heavy pasture seasons. My observation has been that they only die of this disease in the summer months, and generally when on new feed. If the flock is not in good condition (fat) there is seldom any loss from this ailment.—Shepherd, Annette.

Anthrax, a disease caused generally by animal eating spoiled food, and sometimes by wounds in shearing. Treatment: segregate suspicious cases and use disinfectants. E. J. Creely, D. V. S.

Cow with Injured Spine.

To the Editor:—Neighbor's animal got to my cow and before being driven away was probably there about two hours. The cow seemed to walk a little stiff and all at once sank down. It was ten or twelve days ago and she has only been up two or three times since for a few minutes, and not at all for the last week. The general opinion seems to be that she has strained her kidneys, and I have for the last two days given her Humphrey's Specific H. H. for kindey complaint. I don't see any signs of anything being the matter with the kidneys and I think she has strained her back; but I do not see any signs of that either. Nothing seems out of place and no swelling of any description. Her condition keeps good and appetite excellent. She drinks well as usual, pants a little in the heat of the day, goes easy at night. Excrements seem to be all right. She does not seem to lose flesh. When she stood up the hind quarters seemed to shake. Knees are getting sore. The idea of disease seems to be excluded, as she has never shown any signs of such, and was quite as lively as the bull at first. She is now giving about one-quarter usual quantity of milk.—P. Rudd, Rosedale, Kern Co.

It is a bad hurt of the spine. Use liniments: olive oil, 8 ounces; turpentine, 4 ounces; spirits camphor, 2 ounces; concentrated ammonia, 1 ounce. Apply once daily. Apply hot blankets and sling up if possible. The sores are bed sores from lying too much. Give cooling mashes and report in one week. Do not use the milk.

FORESTRY.

The Government Offers to Help Tree Planters.

Gifford Pinchot, Forester of the Department of Agriculture, whom many Californians retain pleasant recollections of from his recent visit, has just issued a circular entitled: "Practical Assistance to Tree Planters," which may be of much interest to our readers.

What the Government Will Do.—The Division of Forestry is prepared, so far as its very limited appropriation will permit, to render practical assistance to farmers and others by co-operating with them to establish forest plantations, woodlots, shelterbelts and windbreaks. A section of the division has recently been organized and placed in charge of an expert tree planter, assisted by a number of collaborators and assistants residing in the different States, who are thoroughly familiar with their local conditions. This section will devote itself entirely to investigations in tree planting and to the assistance of those who may avail themselves of the co-operative plan outlined in this circular. Applications for such assistance will be considered in the order of their receipt, but the division reserves the right to give preference to those most likely to furnish the most useful object lessons. After an application has been made and accepted, the superintendent of tree planting, or one of his collaborators or assistants, will visit the land of the applicant, and, after adequate study on the ground, will make a working plan suited to its peculiar conditions. The purpose of this plan is to give help in the selection of trees, information in regard to planting and instruction in handling forest trees after they are planted. Briefly stated, the division proposes to give such aid to tree planting that woodlots, shelterbelts, windbreaks and all other economic plantations of forest trees may be so well established and cared for as to retain the greatest usefulness and most permanent value to their owners.

Origin of the Plan.—The co-operative plan, by which farmers, lumbermen and others are assisted in handling forest lands, has been so well received, that the division offers, in the present circular, a similar co-operative plan to aid farmers and other land owners in the treeless regions of the West, and wherever it is desirable to establish forest plantations. Under the provisions of Circular No. 21, issued in October, 1898, about 400,000 acres of woodland have already received attention. Applications have been received for assistance in the management of about 1,500,000 acres, and attention is being given to them as rapidly as the resources of the division will permit.

Public recognition of the success of better methods applied to the management of timber lands is rapidly increasing. Equal success must follow the application of such methods to the developing of forest plantations, woodlots, and even shelterbelts and windbreaks. Upon that fact the co-operative plan set forth in this circular is based.

The Plan of Co-operation.—Applications for assistance under the terms of this circular will be considered, as already stated, in the order in which they are received, but precedence will be given to the lands most likely to furnish useful examples, after the study on the ground has been made. The plan formulated for establishing and developing the forest plantation, woodlot, shelterbelt or windbreak will not be put into effect unless it be satisfactory both to the Division of Forestry and to the owner. A copy of the specific agreement which the Department of Agriculture is prepared to make will be sent to each applicant.

Hints to Applicants.—Persons desiring the assistance of the division as here indicated should make application as early as November of each year, or earlier if possible, so that ample time may be afforded the agent of the division to visit the farm of the applicant and formulate plans under which the work is to proceed in time for the planter to order the nursery stock or seeds for spring planting. Applications which do not reach the office by Nov. 15th are likely to go over until the following year. Applicants are requested to specify the acreage, situation and soil conditions of the land which they desire to plant. The land should be located by State, county and township, or by public surveys.

THE IRRIGATOR.

Pumping in Pomona Valley.

The wonderful results of pumping for irrigation purposes have often been cited in the Pacific Rural Press and readers are doubtless ready to conclude that this is one of the most notable instances of wealth development in California. A very careful study of the results in Pomona valley in Los Angeles county has been made by the *Progress*, and its summaries are of very wide interest.

Value of Water at the South.—It is water that transformed southern California from a desert in midsummer to a garden of verdure and flowers and fruit. But most of the water was imprisoned in hidden reservoirs below the thirsty surface of the earth, waiting to be set free. The pioneer fruit growers of southern California tapped those reservoirs and from the fountains that gushed forth and the streams that came down from the mountains obtained what they considered an adequate supply of water to irrigate their lands. But the orchards grew rapidly and multiplied, and the demands upon the water supply became greater each year, although the supply remained practically the same. There became evident the need of the development of more water in the fruit growing districts; but not until a drought made that need imperative was the development of water undertaken with earnestness. The greatly diminished rainfall of last season caused many to seek to obtain more water for their orchards and fields by sinking wells or digging tunnels into the base of the mountains during the summer of 1898. But when the heavens withheld their moisture for another season and the fruit farmers realized that they were confronted with a still drier summer in 1899 than that of 1898 had been, they set about the development of water with unprecedented earnestness.

The Recourse to Pumping.—The results that have attended those efforts in this valley are remarkable. They must, indeed, seem incredible to any one who has paid little heed to what has been going on in the line of water development. Go wherever one will about Pomona pumping plants are seen on every hand, and in the quiet evenings, when driving among the orchards, the pulsations of engines and pumps are heard in every direction. But who could estimate the amount of water for irrigation that has been developed in this valley during the last two seasons? It was because many have asked that question, and no one could give even an approximate answer, that the *Progress* undertook the task of obtaining the following definite and complete data on the subject. Its representative has gone from well to well, obtaining the information direct and with every possible assurance of its accuracy.

No better commentary on the resources of the valley surrounding this city could be published than the returns of this canvass. It shows that as the result of the enterprise of the farmers of Pomona valley during the last two years the enormous quantity of 3000 inches of water is being pumped—nearly all from new wells—for use on their orchards and ranches. Not only is this evidence of the abundance of the water supply, but the fact that water in paying quantities has been obtained from ninety-six wells sunk in different parts of the valley shows further that the supply is well distributed:

GENERAL SUMMARY.

	Number of plants	Number of wells	Total depth of wells in feet	Average depth of wells	Total lift	Av. lift of water	Total H. P.	Total inches water.
Pomona	27	41	10,338	252.14	1,783	43.48	559	1,216
Claremont	12	20	3,938	196.90	893	44.65	275	454
North Pomona	7	8	1,550	193.75	603	75.35	82	122
Lordsburg	4	8	2,327	290.87	418	52.25	168	180
San Dimas	13	17	3,054	179.64	961	56.47	367	547
La Verne	13	13	2,631	202.38	1,634	125 69	164	191
Chino	4	4	1,794	448.50	117	29.25	62	205
Spadra	2	2	81	.....	33	.....	16	70
Totals & averages.	82	113	25,713	227.54	6,442	57.01	1,693	2,985

Prices Paid for Water.—Ranchers in Redlands have been paying 12½ cents per inch per hour for water until lately; now it has been reduced to less than 11 cents.

Chino ranchers pay 2 cents, and private pumping plants between Pomona and Chino charge 1 cent per hour per inch.

Pomona ranchers pay from 2½ cents to 3 cents per inch per hour.

Lordsburg and San Dimas pay 2½ cents.

La Verne ranchers pay 5 cents per inch per hour.

Covina ranchers pay $3.50 per hour for 25 inches,

the water being piped from Lordsburg and San Dimas, making the cost equal to 14 cents per inch per hour.

COMPARISON OF WATER RAISED PER H. P.

	Inches raised.	*Feet per H. P.*
Pomona	2.17	3 18
Claremont	1.65	3.24
North Pomona	1.48	7.35
Lordsburg	1 07	2.48
San Dimas	1.49	2.61
La Verne	1 16	9.96
Chino	3.30	1 88
Spadra	4.37	4 12

FLORIST AND GARDENER.

Hints on the Small Door Yard.

W. S. Lyon of Los Angeles, well known as a mentor in matters of taste and fitness in ornamental horticulture, gives the Los Angeles *Times* some suggestions very pertinent to the planting of small areas around dwellings. We shall extend their usefulness by republication:

Some years ago a friend bought a 50-foot lot in the southwest part of Los Angeles. She was not prepared to build for some years, but would fain plant trees that would come to trees' estate by the time she was ready to build, and transfer her Lares and Penatis to her new home. She had once listened heedfully while the praises of the Moreton Bay rubber tree were being sung, and had stored up in her mind a useful fund of adjectives, but very little knowledge of this particular tree.

Two of the largest she could obtain were then planted, and turned over to a conscientious caretaker, and kept well watered and tilled. A dozen years later she wanted to build, and her architect told her that she would have to move the trees or else get a new lot.

The trees had taken just half of the lot, and not left available room for building!

She vainly endeavored to sell the trees for $1000 and give the lot away for nothing, and vice versa, but finally effected a compromise by polling the two rubbers, and has ever since kept them sheared into compact, symmetrical balls of greenery, much akin to the Noah's Ark tree of toy store commerce, but no whit resembling the beautiful Ficus macrophylla.

This little tale should convey a pointed moral, the gist of which is, plant things as they are to be in the future, not as they appear to-day. In these times, when so many object lessons are at hand, the planting of dates, Araucarias, or rubber trees, upon small city lots, or anywhere that does not admit of their development in extenso, seems altogether inexcusable. Rejoice in the possession of broad acres, and you may have all these things; but if your confines are the conventional city lot, be niggardly in the use of any trees (except in the rear), and eschew large ones altogether. The large tree obscures whatever of architectural worth or merit the dwelling has, and the latter acts as a poor foil or backing for the tree. A notable instance of this is close at hand, on the southwest corner of Seventh and Spring streets, where a truly regal Deodara cedar is quite lost in its environment of big houses and other big trees. In striking contrast to this, an isolated but far inferior specimen in the Childs place, on Main near Eleventh street, appears to far more advantage. Its delicate tracery against the blue empyrean is a vision that enchants the eye. Be content with your lot, though only 50 feet, to lay it all to turf, and the margins of it (front excepted) with small growing things. Let them be dwarf, dwarfer, dwarfest; the superlative being planted as you reach the street—a crescendo as you reach the dwelling. Once passed the front elevation of the house and plants of larger growth or even trees are admissible. You will need them on the south as against the summer sun; on the north, possibly, to protect the secrets of your scant larder from a too incursive neighbor's eye. For this purpose the common old Monterey cypress will answer, or, equally quick and effective, the Lycium richii of Catalina, or the Pittosporum undulatum of Australia. All three will stand heavy cutting in, without injury, and thus save you the vexation of a trespass suit in case they infringe upon the neighbor's domain. The cypress is the least desirable of the three in this climate. Its rough foliage offers a permanent lodgment for all the dust in town, and seems to be the Mecca of all the web-spinning pests of creation. A single douche from the hose restores the luster and polish to the leaves of the Lycium and the Pittosporum—the same application to the cypress makes it look as if visited by the wrath of God.

These, or some other trees, upon the partition lines of the lot are indispensable. My own inclinations dictate deciduous sorts; perhaps, on account of a sentiment for the seasons, and the evidences of returning spring; perhaps, that they are all so tardily deciduous in this climate, that they are only defoliated for the brief season where there can be no surfeit of sunshine, or, perhaps, that I court the neighborly eye of investigation upon my larder, and its fatness, or I court the neighborly eye of the hired girl.

There are other and more important reasons for the use of small-growing deciduous trees upon the boundary lines. Such selections as the Pissardi prune, the Chinese hackberry or the purple peach are all well adapted to this purpose. They can be crowded without detriment to their charming color effects, and it is color rather than form that we seek in small gardens. The objection to most evergreens, and in particular the cone-bearers, pines, cedars and araucarias, lies in the fact that they are chiefly dependent upon form for their attraction. The narrow spaces between the sides of an ordinary dwelling and the limits of a 50-foot lot do not admit of growing them to any size without the suppression of the lower limbs. The condition of an unfortunate human to whom this accident has happened, is less deplorable, for he or she can most times obtain a substitute of some kind; but the unfortunate tree, like the tailless fox, must endure its humiliation forever.

There are some trees that we can introduce into the lawn proper, but, remembering that in planting for a generation and not for this summer and next only, must approach them with circumspect a caution.

Inferior Quality of Muskmelons, and Remedy.

James Troop, horticulturist of the Indiana Experiment Station, makes these pertinent remarks: The muskmelon has come to be one of the necessary luxuries of life, and so it should be, and doubtless is, the object of every melon grower to produce melons of the very highest quality; but there has been much complaint this season, even among the growers themselves, concerning the poor quality of the melons found upon the market. Various causes are given, such as leaf blight, too much rain, a lack of some necessary element in the soil, poor varieties, etc., any one of which would undoubtedly have a tendency to affect the quality of the fruit. The appearance of leaf blight during the growing season always has a tendency to rob the fruit of the necessary amount of nourishment, and cause it to ripen prematurely. This may be prevented in a large degree by spraying the vines with Bordeaux mixture two or three times, depending upon the amount of rainfall, before the disease makes its appearance. An excessive amount of rain is undoubtedly one of the chief causes of trouble. It is a well-known fact that during a very wet season strawberries are of much poorer quality, containing a less amount of sugar, than when the ripening season is comparatively dry. The same is true with muskmelons; the crop may be larger during a wet season, the fruit may be finer in appearance, but the sugar content which gives the melon its flavor is comparatively low. Hence it frequently happens that a variety may give good satisfaction one season and be very unsatisfactory the next. Thorough drainage, either naturally or artificially, will do much towards preventing trouble from this source. The use of fertilizers, rich in potash and phosphoric acid, will have a tendency to produce a fruit of high quality. Another cause for poor quality in melons is found in the fact that many are picked too green. This is especially true when they are shipped long distances. Like California peaches, they must be picked early in order to hold up until they reach their destination, and, also like California fruit, they lose very much of that richness of flavor which can only come by ripening on the vines. There is much difference between varieties grown on the same soil, because all varieties are not adapted to the same conditions. This has been very noticeable in our experiments for a series of years on a rather heavy sandy loam which is naturally underdrained. Those varieties giving the best results are the small Emerald Gem, Netted Gem, Osage, Hackensack and Montreal. Paul Jones is a new variety, fruiting for the first time and giving good satisfaction. It is said to be a cross between the Emerald Gem and Osage, and in some degree it contains the characteristics of both. In general, varieties that come the nearest to perfection every year are the ones to grow.

ENTOMOLOGICAL.

A Great Hornfly Trap.

Californians who find their cattle pestered nearly to death with the hornfly, which collects and makes sores at the base of the horns and at other places where the animal cannot reach it with tail or tongue, may desire to try a trapping house which has proved satisfactory in Virginia and Kentucky, as described for the *Breeders' Gazette* by a cattle man who has tried it. The apparatus looks like a freight caboose with the upper story on a part of it for a lookout. The lookout part is the trap. Having previously tried with poor results to keep off the flies by putting nasty stuff on the cows, the correspondent decided to try to build a trap.

The Dark Room.—The size and proportions are a guess on our part and can be altered to suit. This one is 20 feet long, 6 feet high and 4 feet wide, made of inch oak boards. It has a door at each end nearly full size, and is lined inside with tar paper, which is put outside on the top to keep out the rain. Every ray of light is excluded, except what comes down through the trap, and, of course, it is fly tight. Midway a 6-inch board is set on edge across the bottom, and to it, the sides and top, are tacked bunches of evergreen foliage to brush off the flies as the animal passes through. There are also side curtains, and a short middle one, sweeping back and sides to keep the flies from following through when the door is opened to let the cow out. This is the most difficult part of the performance, the flies being very loath to leave their bed and board, as any one can find out by trying to drive them off a cow when out of doors. This screen makes two rooms, each 10 feet in length, one very dark and the other lighted from above through the trap.

The Trap Above.—We used two cast-off screen doors to make sides and ends of the trap, and covered with wire screen, and it is probably larger than necessary; but have found that no objection. It is 5 feet long, 3 feet wide and 3 feet high, and an opening 3 feet long and 1 foot wide lets the light down and the flies up into the trap. Once in the trap, they rarely try to go back, but spend their time trying to get out through the top, and in from one to two days are starved to death.

On our first use of the trap we were surprised to find that many got out by forcing themselves through the screen. We then covered it with light cheesecloth and have lost none since. Usually we lead or drive the cow into the first room, closing the door behind it. As it passes on into the dark room, the brush and curtains sweep off the flies and they follow the light into the trap. Give a few minutes then with both doors closed to secure all of the flies, but we have passed through several, one at the heels of the other, with good results. After the first time it is little trouble to get a sensible cow to go through; they seem to realize it is doing them good.

The hornfly has decided preferences in its choice of beef, swarming on some cows, while others have but few. In our herd they showed a fashionable taste for Scotch blood and piled on Lavender Lad until life seemed a misery to him, and we feel well paid for building the trap in freeing him from their torments, if we had accomplished nothing more. The United States Department of Agriculture published in 1889 a bulletin which gives a very thorough description of the hornfly and its life history, and, as it states that from May to September there are eight generations of the pests, it seems self-evident that the way to get rid of them is to begin early, kill them off and stop the increase. By the use of this trap we have caught and killed them by the quart and have so relieved our herd that they graze comfortably and can lie down in the shade and chew their cuds in peace, which certainly was not the case before, and we venture to recommend it.

Barley for Export.

We have frequently noted of late the export trade in barley, which is reaching considerable value. A representative of one of the largest dealers of export barley in San Francisco was in Stockton last week and talked to a *Mail* reporter at some length about the future of barley prices. He said that the high prices of several weeks ago was the result of a spurt, and that the present prices more nearly represented the normal condition of the market.

"There is one thing," he said, "that the farmers of California must learn if they are going to raise barley for export, and that is to thresh it differently. They generally try to take off all the beards, and the result is that a great many of the kernels are broken or skinned, which renders them unfit for malting. After the grain is soaked and rolled out on the malting floor to sprout, every grain that is cracked or skinned will get moldy instead of sprouting, and it not only ruins that grain but all the grains which touch it. Now, here's a sample of beautiful barley, but you see there are so many cracked kernels in it that it is almost worthless for brewing purposes. Of course, it is too late to say these things for the good they will do this year, but the people ought to have this fact preached into them until every farmer who expects to get the advantage of the export trade knows it. And furthermore, the export trade is the only salvation of the barley raiser. Electric cars and bicycles have already diminished the number of horses and made a noticeably less demand for feed barley, and when the automobile gets here the amount of barley consumed for feed will be trifling. Consequently the farmers will have to rely upon the demand of European brewers to take the bulk of the crop, and they will not take it unless it is properly threshed."

KARL KOBRICH, who died at Bozen, in the Tyrol, in May, introduced the diamond drill into Germany, and devised many improvements in boring and underground explorations with the drills. It was said that he had charge of over 500 borings and that the total length of the bore holes put down under his direction was 150,000 metres. It was at his instance and under his supervision that the deep drill hole at Parnschowitz, in Upper Silesia, was made. This is the deepest boring ever made into the earth's surface, the drill having gone down 6500 feet.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

SUGAR MILL TO START.—Oakland *Enquirer*, Sept. 1: The beet sugar mills will commence operations at Aivarado next week. From an estimate recently made, it is stated that this year's output will he twice as much as that of last year. The first beets to be used will come from Lodi.

HORSE BEANS.—*Enquirer*: The statement that growers near San Leandro have shipped several carloads of horse heans East has led some people to wonder what these horse beans are used for. Fully twenty-five tons of beans have been shipped from this county to New York during the past thirty days. Joseph Herscher, F. Schieuter, Joseph Garcia and Manuel Enos last week shipped a carload. There are about 200 acres in this county. The horse bean is used in the adulteration of coffee. There is nothing harmful in the bean, and its use is thought by some to improve the flavor of coffee. There is one brand of coffee which has but little coffee in it. In this the horse bean is used as a substitute and a little coffee and chicory are used so that it can be called coffee. The horse bean grows on a stalk about 3 feet high. The bean is dark in color and is in size like the lima bean.

Humboldt.

EARLY HUCKLEBERRIES. — Arcata *Union*, Sept. 2: The first huckleberries of the season were brought into town last Sunday. The berries were abundant, but it is too early for them by two or three weeks.

NEW SILOS.—*Union*, Sept. 2: Three big silos of the most improved pattern are being erected in Eel river valley. It will be only a question of time until they will be as necessary on a dairy ranch as the cows.

FARMERS' CO-OPERATIVE INSURANCE.—*Union*, Sept. 2: The Humboldt County Fire Insurance Association, which was organized at Ferndale on Sept. 16th, 1898, has now eighty members, and carries risks amounting to more than $80,000.

Kings.

PACKING HOUSES BURNED.—Hanford *Sentinel*, Aug. 31: Armona was visited by a disastrous conflagaration Sunday, and as a result the fine new packing house of Chas. Downing, and the large Nathan packing house, with their contents, were totally destroyed, the total value being roughly estimated at $30,000, which was partly insured.

Los Angeles.

FULL OLIVE CROP.—Pomona *Times*: R. G. Parker is one of the few olive growers in the valley who will have a full crop. His trees are loaded with fruit and he estimates that he will have a larger crop than ever before. His orchard is in sandy land near the mountains.

TO DESTROY FRUIT PESTS.—*Record*, Aug. 24: The Green Chemical Co. was incorporated today with a capital stock of $100,000. The object is to carry on the business of destroying insects, fungus and worms which attack vegetable growth. The headquarters of the company is in Los Angeles and the directors are T. R. Green, A. N. Meals, H. C. Stiles, E. B. Merritt and C. E. Day.

Mendocino.

PEAR CROP.—Healdsburg *Tribune*: J. R. Banks of Hopland has just shipped 69,683 pounds of Bartlett pears from an orchard of four and one-half acres, owned by O. Myers.

BIG WHEAT YIELD.—Ukiah *Dispatch*, Sept. 1: J. McCreary, a Potter Valley farmer, sent to the State of Washington last year and secured some seed wheat of the famous Red Chaff variety. He sowed one and one-fourth acres and last week threshed 125 bushels from this little patch. There were fifty-two sacks, weighing over 150 pounds each. The wheat is said to make good flour.

Napa.

PASSING OF THE SHEEP HERDS.—Napa *Register*, Sept. 1: Fifteen years ago the flocks that grazed on the hills and mountains bordering Berryessa valley numbered over 20,000 sheep. The Clark, Grigsby, Scribner, Smittle, Gosling, McMillan, Chapman, Polk, Adams, Neil and Hinck ranches carried their thousands and smaller ranches their hundreds of sheep. 'Tis not so at this writing. Many noxious weeds grow on grain and pasture land that was clean when the sheep were there. These weeds retard and even stop the growth of serviceable crops that might make many pounds of mutton and wool if the coyote was dead. Before the advent of the coyote the man who owned a few sheep three times each year had his pockets full, the proceeds of his mutton and wool sales, and the rancher's table was supplied with a fine quality of mutton at nominal cost. These were halcyon days for the people of Berryessa. Since then prosperity, with the sheep, has gradually diminished. C. Gosling and the Widow Neil, by perseverence, energy and alertness, saved their flocks from the rapacity of the coyotes until they were offered a tempting price for their remnants and let them go. Mr. Gosling sold the last of his one year ago, and Mrs. Neil's are still hung up and sought after by the epicureans at the meat market of Zollner & Even in Napa. And that is the last of the Berryessa sheep.

Sacramento.

DAIRYMEN RETURNING.—Folsom *Telegraph*: Many of the dairymen who left here for the mountains will be obliged to return earlier than is their custom, owing to the cold weather.

HOP HOUSE FIRES. — *Record-Union*: Fire broke out in the S. D. Wood hop kiln Monday, and the floor of one kiln, together with about 5000 pounds of hops, was destroyed. Another hop house went up in the smoke Tuesday, making the third that has been burned in this vicinity this season. The one which was destroyed yesterday was on the Camp ranch, near Perkins, owned by Silves Bros., and under lease to William M. Leeman. The buildings burned consisted of kilns and drying-houses and were insured for $1200. Leeman lost all the hops that had been picked on the ranch, which were insured for $3000, which probably covers the loss.

SMALL FARMS PAY BEST.—Galt *Gazette*: Twenty acres used to be looked upon as entirely too small a farm for an average family to live upon. That idea was exploded several years ago in this vicinity, and small farms have proved more remunerative than large ranches. The ten-acre farm will in the future become the most popular one where irrigation is practiced. Ten acres well cared for will yield a larger net return than fifty acres indifferently farmed or irrigated. Five acres should be devoted to grapes or one or two varieties of standard fruit trees, such as apricots, peaches, pears or prunes. The remaining five acres, less the necessary site for house, barn, etc., should be devoted to alfalfa, berries and vegetables. On such a farm there is plenty of work to keep a family busy the year round, and there is not a month in the year but that some cash returns are coming in from the sale of products. The ten-acre farm has come to stay.

San Bernardino.

BEET PULP FOR MILK.—Chino *Champion*, Sept. 1: Some people doubt the value of beet pulp as a dairy food. R. C. Steele has positive evidence of its value in the experience of several years. He got his first beet pulp for this season on Sunday. He fed a little on that day and commenced its use in earnest on Monday. On Tuesday morning he had a gain of 219 pounds of milk from 90 cows, and the value of this additional milk will pay for the pulp fed.

GOOD PACKING PAYS.—Redlands *Citrograph*, Sept. 2.—On August 26th there were in transit to the port of New York, and in that city, 90,750 cases of lemons. Prices ranged on that day from 75c to $5.25 per box, showing that first-class fruit, packed in thoroughly first-class style, brought highly remunerative prices, while inferior fruit would not pay the freight, let alone packing and picking.

PUMPING PAYS.—*Transcript*: W. S. Corwin, a Highland fruit raiser, expresses much elation over the success of his pumping enterprise. He put in a deep well pump and 15 H. P. engine and uses No. 2 distillate oil for fuel, which costs 9 cents per gallon. A drum containing 110 gallons of distillate, with 6 gallons of gasoline and 50 cents worth of engine oil, runs his machinery 7¼ days of 24 hours each, making the total cost for each day $1.52. The water is raised 183 feet and the flow is 6 inches, making the cost of the water less than 30 cents per inch. Mr. Corwin's experience demonstrates how rapidly the irrigation question is being solved wherever the subterranean supply can be reached by a deep well pump. He thinks he has saved his trees and secured an extraordinary crop of lemons and oranges through his investment in an engine and pump.

SUGAR MAKING.—Chino *Champion*, Sept. 1: Daily shipments of trainloads of refined sugar leaving the factory attests better than anything else the industry and energy that now prevail here. Hundreds of workmen are busy day and night converting the saccharine juices of the homely sugar beet into the pure white crystals which are indispensable to every table in the land. This is the ninth year of the existence of the sugar factory, and never before has a campaign opened so satisfactorily. Beet slicing commenced last Saturday morning and on Tuesday the tonnage sliced was up to the capacity of the factory. In one-half hour on that day there were 25 tons sliced, which is a rate of 50 per hour or 1200 per day. The management of the factory is naturally greatly pleased with the success of the plant, and it may be said with justice that this is due largely to the extremely thorough care with which every machine and part in the whole factory were gone over, repaired and tested until there seemed no possibility of trouble when the campaign should commence. Beets from Oxnard are coming in at the rate of two or three trainloads a day now and the prospects are encouraging for a long and prosperous campaign. Among the changes in the heads of departments this year are Mr. Veenhuysen as head chemist, and Mr. Tuick as assistant superintendent.

San Luis Obispo.

GRAIN YIELD. — *Tribune*, Sept. 1: C. A. Telleen of Templeton reports that five threshing machines are at work in the Creston and Templeton country and that considerable grain is now being hauled to the warehouse. The yield runs from five to fifteen sacks to the acre, twelve sacks being the average yield on most ranches.

GRAIN BURNED.—*Breeze*: Fire destroyed 9000 sacks of grain near Edna. The blaze laid waste everything combustible on 1200 acres and entailed a loss of nearly $10,000. Some of the grain was in shock, some in bags and the remainder was in settings, lying on the field just as left by the headers. The principal losers are C. Monighetti, J. Thompson, W. A. Seaman, G. Ross and D. McCarthy.

Santa Cruz.

DISTRICT FAIR NOTES.—*Sentinel*, Sept. 2: At a meeting of the directors of the Fourteenth District Agricultural Association, Directors J. H. Logan, C. Spreckelson and R. C. Kirby tendered their resignations, and L. P. Lauretzen, H. R. Dakin and W. H. Galbraith were recommended to fill the vacancies. L. P. Lauretzen was appointed to recommend some person in Pajaro valley to be named as director to fill the vacancy caused by O. H. Willoughby. A resolution was adopted that the annual fair for 1899 be held in Santa Cruz and the annual fair for 1900 be held in Watsonville.

Santa Clara.

CANNERY CLOSED.—San Jose *Mercury*, Sept. 2: The California Canneries Co., Ltd., have ended the season at their cannery here and the factory has been closed down. All fruit contracted for and not delivered will be ordered shipped to the San Francisco factory of the company. It is the intention of the company to erect a large plant along the track near the broad gauge depot to be ready for the next season's pack.

Solano.

GRAIN IS BEING STORED.—Vacaville *Reporter*, Sept. 2: Grain is accumulating in the warehouses at Elmira, ranchers not being disposed to sell at the present quotations.

ALMOND HULLERS.—Cordelia *X-Ray*: Three patent almond hullers have been received here and are in operation in the valley. They are great labor-saving machines.

THRESHERS IN DEMAND.—Vacaville *Reporter*, Sept. 2: This is the greatest season yet for threshing outfits. The day of the old line thresher is about gone, but the crop has been too big to handle with the facilities at hand, and probably some of the grain will not be threshed before the winter comes on.

PACKING HOUSE BURNED.—*Reporter*, Sept. 2: A fire on Fred Buck's place caused the loss of his packing house and other buildings, one containing a considerable amount of dried fruit. Several thousand trays were destroyed, and tools and implements of various descriptions, so that Mr. Buck's loss, over and above his insurance, will run up to $3,000.

SINKING WELLS.—*Reporter*, Sept. 2: Henry Goosen of Cordelia and his corps of well borers have been at work sinking wells on the Hatch ranch and on John Bryan's place. Mr. Goosen states that the water has settled in the valley from 6 to 8 feet lower than it was found last year, and thinks it will settle still farther. Deep well pumps are the only pumps which will bring the much-needed element to the surface.

Sonoma.

FRUIT BUSINESS.—Santa Rosa *Press-Democrat*, Sept. 2: At least 10,000 trays of fruit are spread over the Merritt Fruit Company's drying ground at the present time and a large force of hands are at work. The company is handling an immense quantity of pears, peaches, prunes and plums. On Tuesday, Wednesday and Thursday a carload of this season's peaches were shipped by the company, probably the first from the neighborhood. Two of the carloads were sent to Chicago, while the third went to New Orleans. In about a week dried prunes will be shipped.

HOP NOTES.—Sebastopol *Standard*: At Mt. Olivet the hops are early this year, and pickers are already at work, but in this vicinity work will be commenced in about a week. At the Wohler ranch pickers are busily engaged. They have an orchestra and a large platform there and at night the hop pickers keep things lively until close on to midnight. Fred Purrington will commence picking either the last of this or the first of next week. At the Gannon hop yard work will be begun next Wednesday and the names of a large force of pickers are on the list waiting for the work to begin. The price set at a meeting of the hop growers was 90 cents, but as some of the fields started with $1 a hundred, the balance will pay the same. The hops are looking fine and a large yield is expected from most all fields. J. E. Gannon expects to have thirty tons this year.

Sutter.

MUSTARD CROP. — Marysville *Democrat*: Some years ago, when there were breaks in the levee and the land along the river was overflowed, considerable mustard seed was distributed and continued to grow each year, notwithstanding the efforts of the farmers to get it out. Of late years on the farms where the mustard grew plentiful the farmers have been utilizing the seed and making it a marketable product. The combined harvesters separate the seed from the wheat or barley, and when thoroughly cleaned brings from $1.50 to $2 per cental, being marketed as "rape" seed. From the vicinity of Marcuse and Tudor this year there will probably be over a carload shipped.

Tehama.

WATER SCARCE.—Red Bluff *Cause*, Sept. 2: Several bands of sheep will arrive here from the mountains next week and be taken to the shearing camps. Some of the sheepmen have been forced to drive their flocks out of the mountains owing to the scarcity of water.

Yuba.

HOP NOTES.—Wheatland *Four Corners*, Sept. 2: The third week of hop picking is past and in the larger yards the crop is not near in. The hops are rapidly ripening and by the latter part of next week many patches will be so injured that the grower will not pick them. On Monday the picking price will be advanced to $1.10 a hundred. Picking will be finished in the J. H. Durst yard on Tuesday; a few days later the Jasper and R. H. Durst crews will finish. Up to to-day ten carloads of hops have been shipped. J. H. Durst sent three cars to London; Hurst Bros. shipped five cars to New York, and P. C. Drescher shipped two cars from the Jasper ranch to Sacramento.

EXPERIENCE WITH TREES ON DRY UPLAND.—Marysville *Democrat*: Editor Boynton of the Oroville *Register* has been taking notes in this vicinity, and he says on Monday last he visited the home of Gavin W. Hutchins, seven miles north of Marysville and in Yuba county. Some years ago Mr. Hutchins had a good orchard on the low bottom lands along Feather river. The general filling of the river caused the death of many of his trees and he then set about testing fruit on the dry upland. There was not another orchard on this land between Honcut creek and Marysville, and there is not another one to this day, yet for the past eight years it has been demonstrated that trees would thrive there well. The trees have not been irrigated, but have been carefully cultivated. He is satisfied that up to eight years old the trees make as rank a growth, bear as heavy and do as well as in the moister bottom lands. After they are eight they will need to be irrigated to bear as heavily and do as well as those in the bottoms. He has on upland and in the bottom, old and young trees, eighty acres in fruit. Two years ago he picked 75 tons, last year 125 tons and this year 200 tons is his estimated crop. He has 1000 Muir peaches, 500 Early Crawfords, 500 Orange Clings, 300 McDevitt Clings, 300 Phillips in a young orchard. In an older orchard he has 333 Orange Clings, 400 Early and Late Crawfords, 200 Muirs, 500 French prunes, 500 Royal apricots, 160 Levi's Clings and other varieties of fruit in both old and young orchard. His fruit is large, ripens in good season and has a delicious flavor. His success points out the fact that large tracts of land, now only used for pasturage or for wheat growing, will raise first-class fruit.

ARIZONA.

EARLY CANTALOUPES. — Phœnix correspondent of the L. A. *Herald*, Sept. 2: The success of the early fruit season, which has just ended, gives dealers confidence that the Salt river valley is destined to become a great fruit center. The most successful shipper is the "Rocky Ford Netted Gem" cantaloupe, first introduced at Rocky Ford, Colo., by J. W. Eastwood about ten years ago. Mr. Eastwood has been here a few years and planted this variety of cantaloupe. This season the shipments amounted to twenty-five carloads. The principal claim to attention of this fruit is the fact that it matures about five weeks in advance of the cantaloupes in other sections. They have been sent to the most distant points in the country, and a few have found their way to Liverpool, England.

OLIVE CROP.—The olive crop of this valley has been sold to P. J. Crogan of Los Angeles, and will be pressed for oil. There will be a fairly heavy crop. The olives last year were pickled, but they are thought to be more valuable this season for oil. They will be treated at Los Angeles, but the local producers calculate on putting up a reduction factory next year. The olive trees here have always been more or less neglected, but this section is so well adapted to their growth that they have thrived, and, if properly cared for, next year the crop will be immense.

OREGON.

OUTLOOK FOR WHEAT AND HOPS.—Salem correspondent of Portland *Oregonian*: Marion county farmers are greatly discouraged at the prospect for this year's grain crop, which grows poorer every day, as a result of the inclement weather which has prevailed for nearly two weeks. Both cut and standing grain has been damaged, but estimates as to the extent of the damage are conflicting. In some sections a large proportion of the fields of standing grain and oats has been beaten down. Comparatively few fields have been threshed in this county, while across the Willamette river, in Polk county, considerable work has been done by threshers. Grain has had all the rain it can stand, some of it more. It is probable, though no correct estimate can be made at this time, that the recent rains have caused damage aggregating about 50% to the grain and oat crops. Flour at the Salem flouring mills advanced 20 cents a barrel, to $2.65, as a result of the wet weather, which will result in a greatly decreased wheat crop. It is more than likely, some farmers say, that a considerable portion of the oats already cut east of Salem, in the vicinity of and in the Waldo hills, will never reach the market, as the crop has been badly damaged. Growers speak well of the condition of hops. They say that if they have ten days or two weeks of warm sunshine just before picking time to kill the lice that will get on the vines as a result of the wet weather, comparatively little damage will be done the crop by the rains. Lice have appeared in some yards, but it is thought that warm weather will come in time to prevent serious damage.

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THE HOME CIRCLE.

Things That Never Die.

The pure, the bright, the beautiful,
That stirred our hearts in youth,
The impulses to wordless prayer,
The dreams of love and truth;
The longings after something lost,
The spirit's yearning cry,
The strivings after better hopes—
These things can never die.

The timid hand stretched forth to aid
A brother in his need;
A kindly word in grief's dark hour
That proves a friend indeed;
The plea for mercy softly breathed,
When justice threatens high
The sorrow of a contrite heart—
These things shall never die.

The cruel and the bitter word,
That wounded as it fell;
The chilling want of sympathy
We feel, but never tell;
The hard repulse that chills the heart,
Whose hopes were bounding high,
In an unfading record kept—
These things shall never die.

Let nothing pass, for every hand
Must find some work to do;
Lose not a chance to waken love—
Be firm, and just, and true;
So shall a light that cannot fade
Beam on thee from on high,
And angel voices say to thee—
These things shall never die.

—Charles Dickens.

A Daughter's Devotion.

Hannah Pym had been at work in the factory all day. She was very tired as she walked home among the troop of gay, chattering girls, whose spirits even physical fatigue could not suppress. She heard their voices, but took no part in their talk—nay, she had but little comprehension of it. She was weary in body and in mind, and had a most intolerable longing to flee away from the surroundings which she hated—to get a taste of another life. She did not look strong. She was very tall, and so slender that they called her for a nickname at the factory the "Beanpole." She was not beloved there, except by the little children, to whom she was always tender and kind, helping them with their tasks as she had opportunity—often, indeed, making it. For any child, no matter how grimy or unlovable, Hannah had a smile and a loving word, which showed that her heart was in the right place and that she was a good true-hearted girl.

When she entered the little home to find the table, as usual, set for the evening meal, she instantly gathered from her mother's face that something unusual had happened.

"Surely you're very late, dear," she said gently, as she glanced around from the fire, where she was superintending the contents of a saucepan. "I have been looking for you for a good half-hour."

"Oh, I don't think I am late, mother," answered Hannah. "Why, there's nobody in but me."

"Your father has had his supper, my dear, and gone out," said Mrs. Pym, and both her face and voice perceptibly hardened.

"Why, he's in a great hurry to-night, mother. Is there anything up?"

"Yes; a match down at Bradleigh. I don't expect we'll see him this side of midnight."

A slight shadow crossed Hannah's grave face, and without speaking a word she went into the back kitchen to wash her hands.

"That's what's making you look so upset, mother," she said when she came back with the towel in her hands. "Has Tom gone with him?"

"No; Tom hasn't come in yet, either. You're not asking for my news, Hannah. I've had a letter from home."

"Have you, mother?" cried Hannah, with the most intense interest. "From grandfather?"

"Yes; and what do you think? They want you to go down to pay them a visit! I can't believe that it has really happened; it's like a dream."

"May I see the letter, mother?" asked Hannah, in a low, eager voice, which indicated that the matter was of scarcely less moment to her than to her mother.

"Yes, you can; but it's only short. Father didn't write it himself, but your Aunt Bertha. The great thing is that they've asked you; and, of course you're going at once."

"Am I?" asked Hannah. "Oh, mother, I can't believe it. I would give anything to see the old house where you were so happy. I've sometimes thought I'd save up and go down for a quiet holiday on my own account, just for the pleasure of looking at The Gables and thinking of the days when your were a girl there."

"I have often felt that way, my dear," said Mrs. Pym, with a little sob in her voice. "But now you shall go properly. I am nearly beside myself with joy over it, and I don't seem to care a bit about all the hard things your father said about it."

"I suppose he wouldn't approve of my going," said Hannah, wincing slightly. She was not very found of her father, but to her sensitive nature a word was as a blow.

"No; he was as angry as he could be. He said you shouldn't go. Of course he feels bitter at them because they disowned me when I ran away with him; but I don't see what else they could have done, I was so wicked and disobedient; and I want you to go down and tell father on your bended knees how sorry and repentant I am, and have been for years and years."

"Mother, if I do go I won't tell him anything of the kind," said Hannah, with a sudden passion. You're my mother, and in my eyes you couldn't do wrong. I am not going to demean you in grandfather's eyes or anybody else's, so you needn't ask me."

"It's good of you to speak like that, Hannah, when you might easily be reproaching me for what you are," she said almost gratefully; and the words stung Hannah even more than her former ones had done.

"Oh, do be quiet, mother; I can't bear to hear you speak like that. I am quiet happy as I am, and as I have never known anything else I have no reason to be discontented. But now tell me, do you think father will consent to my going?"

"I am not going to ask him, dear," said Mrs. Pym, speaking with a somewhat sharp, strident note in her voice. "This is my business, not his; and you shall see the old place, and your grandfather and your aunt, whatever he may say, and to prevent any trouble about it I have written to say that you'll go down on Saturday afternoon."

"On Saturday afternoon!" repeated Hannah in amazement. "Why, mother, you can't be in earnest."

"Yes, I am," said her mother, with a nod. "This is only Monday; there's plenty of time to get you a new frock by Saturday, and I've been looking out some of my underthings, which I was keeping for you until you got married. Hannah. You shall go like a lady if you go at all."

* * * * * *

Hannah arrived at Boscombe about six o'clock in the evening, at which station her aunt had told her she would be met and driven out to Christchurch. The bewildering beauty of the Hampshire coast seemed to hold the girl in awe, and by the time she reached Boscombe she felt as if nothing could surprise her further.

"Is it possible that you can be my niece, Hannah Pym?"

"Yes," answered Hannah, and her passive face underwent a transformation as she looked eagerly at her aunt's face. But evidently something she saw there disappointed her, because the brightness almost immediately disappeared, and she looked calm and dull and almost uninterested.

"I am glad to see you," said Miss Denton civilly, but quiet formally, and not offering her niece a warmer greeting than a simple handshake. "My father would have come to meet you himself, only he is very old, you know, and driving seems to shake him a good deal now. He seldom goes farther than the grounds in his invalid chair."

"Oh, is he so poorly as that?" said Hannah, as she walked steadily by her aunt's side, tracing the resemblance to her mother in every feature, and yet missing the warm affectionate touch which caused Rachel Pym's children to adore her.

Outside the station gates a comfortable carriage was in waiting, and Hannah took her seat by her aunt's side, with the odd feeling that she was still in a kind of dream.

"It is very pretty here just now," said Miss Denton presently, and Hannah wondered more and more that she could talk on such trivial matters, and not even ask after her mother's welfare. "I suppose you have not been in Hampshire before?"

"No, never," answered Hannah, and she could not soften the somewhat hard note in her voice. Miss Denton was perfectly conscious of it, and she recognized at once that her niece was no common girl; but she made no sign as she sat bolt upright in the carriage, keeping her level brows straightly fixed on the road along which they rapidly and smoothly rolled.

"You will enjoy being here. I always think this is the nicest season of the year in Hampshire, it gets so warm later. The Gables is looking very pretty just now; the season is very early, and all the rhododendrons are just coming into bloom.

"There is my father on the lawn; I daresay he is looking out for us," said Miss Denton, and Hannah was quick to notice how particular she was to say "my father" always, and never "your grandfather."

The house, which was approached by a short and winding carriage drive, had a beautiful green lawn before the door, sloping away from the gravel sweep where the old gentleman's bath chair was being wheeled up and down by his man.

Hannah looked at him earerly.

"So you are Rachel's daughter?" he said in a faltering voice. "You are like her. You are welcome to The Gables."

As he spoke these words he regarded her keenly, so keenly that for the moment Hannah, usually self-contained and unemotional, was on the verge of tears, because, instead of the loving welcome for which she hoped, here there was nothing but criticism, which she felt scarcely able to endure. For the moment her one desire was to flee back to the station and return the way she had come.

"You are like your mother," said the old gentleman presently. "I hope you left her well?"

"Yes, thank you, quite well," answered Hannah stiffly.

"I suppose she did not give you any message for me?"

"No, sir, none," she answered, in the same quiet, unemotional voice.

"Oh, she didn't? Well, in that perhaps she was wise. But you mustn't say 'sir' to me, do you hear? I am your grandfather. Let me hear you say 'Grandfather.'"

Hannah repeated the word obediently, the old man in the meantime keeping his eyes firmly fixed on her face.

"You're very like your mother; you've got her fine figure and eyes. Well, I hope you won't make such a fool of yourself as she did; but there, you don't look as if you would. Take her into the house, Bertha; and she's to have her mother's room, do you hear?" he called after his unwilling daughter, as she turned to lead the way into the house.

"My father doesn't take tea, but begs that you will excuse him," said Miss Denton formally, as she might have spoken to any stranger guest, when they met later in the tearoom. "He wants to see you in the library after; I daresay he wants to ask you a great many questions about your mother. How many brothers and sisters have you?"

"I have one brother and one sister younger than I am," answered Hannah.

When Hannah entered the dimly lighted library in which the old gentleman sat in his easy chair, she felt almost as an offender might feel called out for judgment. He bade her sit down in front of him, and, fixing his keen eyes on her face, proceeded to put her through a catechism regarding her family and affairs. Hannah bore this meekly for some time, answering to the best of her ability, but something in the old man's tone made her angry at last, and she sprang up, her fine eyes flashing.

"I won't answer another question," she cried passionately. "I don't know why you asked me to come down here. Mother thought it was because you had forgiven her, and wanted to show her some little kindness, but I don't believe it. I wish I'd never come, and I don't wonder in the least now that mother ran away; I should run away myself. I'll go home to morrow; I couldn't stay another day; it would choke me."

"There! I like that," that's the real Denton spirit. Your mother was just like you at your age. There, there, come and kiss me. Oh, child, you don't know how my heart has hungered for your mother all these years! My heart and home have been empty without her."

But, though touched by these unexpected words, Hannah still held herself aloof, her heart sore and smarting under the whole experiences of the evening. At last he persuaded her to sit down near him, and they entered into a more friendly and confidential talk, during which Hannah became convinced that the hardness of manner and brusqueness of speech on her grandfather's part were more or less assumed for the purpose of hiding deeper feelings. When she was allowed to go to her own room for the night, her heart was in a strange tumult of conflicting feelings. But her thoughts turned again and again toward the home she had left, which was poor and mean and sordid in some respects, but at least it was illumined by the light of a self-sacrificing mother's love. When she should see it again she would prize it as she had never yet prized it. So already the experience of the day was bearing its fruit in the girl's mind. As she was sitting there in the stillness, she was presently disturbed by a low knock at the door. Hastily bidding the intruder enter, she rose to her feet, and was surprised to see her aunt, in her dressing gown and slippers, come in.

"I thought you would be in bed, dear," she said, in a quite gentle voice. "What are you thinking of as you sit there in the dark, all alone?"

"I was thinking about my mother," answered Hannah simply, "and saying to myself that I had never known until to-day what a dear and splendid mother she is; and I cannot get back quick enough to tell her so."

Tears rose suddenly in Bertha Denton's eyes. The quick passion with which the girl spoke indicated the depth of her feelings, and it seemed to her that though her sister Rachel had chosen the husks of life, yet was she not altogether without compensation.

"I could see that you were disappointed in us," she said hurriedly; "but, my dear, we are not emotional people. It was because your mother allowed her feelings too much scope that she made such a deplorable mistake. But I, at least, would wish you to be happy here, and when we get to know each other better, perhaps it will be possible for you to feel at home even with me."

These unexpected words, spoken when Hannah's feelings were somewhat wrought upon, betrayed her into a most unusual demonstration. With a little sob she threw her arms about her aunt's neck, and from that moment they seemed to understand one another.

The strain of the first evening over, it was surprising how quickly Hannah Pym accommodated herself to her new surroundings, and how thoroughly she felt at home. As her aunt had said, they were not demonstrative people; fortunately, however, Hannah had been reared in an unemotional household, and had early learned the lesson of self-control. A fortnight was the limit of her visit, and when the first week had passed she found herself jealously counting the few remaining days which

would intervene before her return to her own home. During her visit she wrote a daily letter to her mother, and these letters stirred in poor Rachel Pym's heart such memories of the long ago time that she seemed to live in a dream world; and so the days slipped away, and it came to Hannah's last evening at The Gables.

They were sitting at tea on the lawn, the weather being so mild and summer-like that this was quite enjoyable. Somehow they had talked less than usual; and at last Bertha Denton, looking with a sudden sharp glance at her father's face, said abruptly:

"Will you ask her, father, or shall I?"

"You can do the talking, Bertha," said the old gentleman good-humoredly, "and if you say anything I don't like or don't approve of, I'll put in my word."

At this Hannah smiled. She was sitting in a low basket chair, and her face had been rather grave and thoughtful.

"We want to know, your grandfather and I, whether you have had a pleasant visit, or whether you will be glad to leave us?"

Hannah's eyes filled with sudden tears.

"Oh, Aunt Bertha," she cried quickly, "how can you ask me such a question? I have never, never been so happy in all my life."

"Do you hear her, father?" cried Bertha, almost triumphantly; "she says she has never been so happy in her life. If that is the case, then it will make you listen more favorably to what we have to say. We would like you very much to live here always, Hannah, and become one of us."

Hannah's face hotly flushed, but she shook her head.

"You are very kind, Aunt Bertha, but I could not possibly do that."

"I shall never leave my mother as long as I live," she said, with a touch of passion. "I have only known, since I have been parted from her, how good she has been to me and to us all. I feel as if I could not get home quick enough to tell her so, and to be a comfort to her. She has always said that I could comfort and help her."

"If she is all you say," said the old man, with a gruff note in his voice, "she must have changed very much from the old days, when she was a law to herself and never consulted anybody's feelings but her own."

"She is not like that now," said Hannah quietly, yet with great earnestness. "She thinks of others always before herself."

"Then you won't stay?" said Bertha Denton in a very disappointed voice, "or allow us to do anything for you?"

She looked from one to the other, and her breath came rather quickly. She was about to make a very bold request, and she did not know how it would be received.

"There is something you can do for me, grandfather, and Aunt Bertha. When I came first I should not have dared to ask it; but now somehow I am not afraid at all. Won't you write and ask mother to come down to this lovely place? She is so tired always, and works so hard, and is so good to everyone, and yet sometimes she is so sad thinking of her old home here. I understand so well now just how she must feel about it. If you would only ask her to come down, it would make her happier, I know, than anything in the world."

"I vowed that she should never cross this threshold again," said the old man; but there was no anger or resentment in his voice. "I always keep my word, but I would like to make you happy before you go, if you really will go."

"Then may I take your message to mother?" said Hannah, her face simply radiant. "May I tell her that she is forgiven, and can come down to see once more the old home which is engraved on her heart?"

"Yes, yes," said the old man, struggling with the emotion he could scarcely control. "She shall come down when she likes, and stay as long as she pleases."

So it came about, through the quiet, unobtrusive influence of Hannah Pym, that her mother was received once more into her girlhood's home. The girl's absolute devotion to her mother had touched a chord in the old man's heart, and restored to it some of the tenderness of long ago; and though it would not be possible to forget or ignore the years that had gone, still they were able to gather up the broken threads, and enjoy a measure of family happiness which surprised them all.—The American Queen.

California Sea Mosses.

An active Sunshine member, who is an enthusiastic naturalist as well, has sent to the New York *Tribune* a most charming souvenir of a trip to the Pacific coast, that may serve as a suggestion to others starting for the sea shore. It consists of sprays of exquisite sea mosses floated out into graceful shape and pasted on leaves of stiff white cartridge paper shaped like the familiar scallop shells.

There are eight of these leaves, fastened together by a bow of orange ribbon. On the outside, in gold lettering, is the inscription: "Bits of Moss in Memory of the Sea," while on each of the inner leaves, between sprays of the moss, are verses from the poets, descriptive of the sea.

"It is not at all a difficult matter to preserve and mount the moss," says Mrs. Grace W. Corrillo, a woman whose summer home is on the coast at Santa Monica, Cal., and who annually decorates for herself and friends quires and quires of note paper with a little spray of ferns in the upper left-hand corner.

"When sauntering along the beach mornings I take with me an oilskin bag or a tin box, and as I come to a pretty bit of weed on the sand I tuck it in so that it won't lose its bright hues by exposure to the sun. Just before I get ready to go back to the house, I turn out my treasures and wash them well in the salt water, shaking out the sand and foreign substances. Then I take them home and spread them out in a dark corner of my room to dry. When I am ready to use them I float them in a bowl of clear water. The coarser kinds I shake out and hang up to dry on a string fastened across the window, but the finer sorts I save for mounting.

"Taking a sheet of letter paper—linen, with a rough surface—I slip it under the seaweed, lift it carefully to the surface of the water, and, still keeping it afloat, arrange the sprays on the corner, naturally and gracefully, with a fine camel's hair brush. When this is done to my satisfaction—and it is most fascinating work—I cautiously raise the paper out of the water, so as not to disturb the arrangement of the seaweed, drain it as well as I can, and, while still moist, place it under heavy weights between sheets of paper. The mucilaginous nature of the weed will often cause it to adhere to the paper without the use of other glue.

"This same treatment suffices for all flat work. In making a seaweed album, if arrowroot paste is used there will be no shiny marks left on the page. An excellent glue can also be made by taking five parts of gum arabic, three of white sugar and two of starch, adding a little water, and boiling the whole until it is thick and white."

Farmer, Soldier, Senator.

Senator George L. Shoup, of Idaho, is always pointed out to visitors in the Senate gallery at Washington as the "Indian scout who made himself a Senator;" and, though the description is hardly adequate, it is correct as far as it goes; for the Senator Shoup who now arouses so much enthusiasm in the Senate by his stirring addresses was for many years a fighting man, first a scout, then an officer in the regular army, and finally a volunteer in the Civil war. His history is a varied one, but it contains a long list of startling successes.

Maturity.

Life's pageant sweeps so close, we feel
The music-breath, the thud of trampling heel;
The touch of lips that pass;
Of hands, alas!
We faln would longer keep;
The sweep
Of spirit struggling in unrest;
And, with immortal longing, strain against the breast
Some image of the Infinite, till it must go,
Borne onward and away. To know
Elysium's transport, and to stay
Some passing spirit-wing, which will away
While yet it seem
Life hath, at last, fulfilled its dream;
To catch a passing breath
Of some sweet rapture strong as life, as death,
Is but to see
That but a foretaste of Immortality can be—
Though strong and sweet—our own
Till grown
To our maturity, and given
The touch of soul to soul in heaven.

—George Klingle.

Cleaning Coat Collars.

I will tell you of a very simple and effective method of cleaning coat collars and removing soiled spots from other garments without taking them apart. The use of strong drugs, which most cleaning fluids contain, is neither necessary nor advisable for this purpose, as they often fade the cloth.

Dip the collar or other soiled portions in hot water, rub ivory soap on them, and scrub with a clean, stiff brush. An old toothbrush that has been discarded for toilet purposes is good for this work. Dip in the water frequently, changing it for clean, hot suds whenever it gets dirty. When the goods is clean, scrub with clear water until every trace of soap is removed, and hang it up until dry enough to iron. Press it on the wrong side, or if that is not convenient, cover the right side with a cloth, and iron until dry.

In his address to the Harvard students recently, Dr. Edward Everett Hale laid down these three rules, which he said had been the greatest help to him in life:

Be in the open air all you can.
Every day hold converse with a superior.
Rub against the rank and file daily.

Ethel—Isn't it strange that Flossie attracts such intellectual men?

Maud—Oh, no. She told me she always plans her gowns when they talk to her, and that gives her face that interested expression.

DOMESTIC ECONOMY.

Rules for Cooking Vegetables.

It is a well-known fact that beans, lentils and split peas do not boil soft in hard water. The sulphate of gypsum, the salts of lime coagulate the casein which these seeds contain. In some cases, however, the solvent power of pure soft water is so great that it destroys the firmness, color and skin of green vegetables and allows their juices to be extracted in the process of boiling. It is especially true of beans and green peas. Therefore, hard water instead of soft should be employed in these cases. A tablespoonful of salt added to a gallon of soft water hardens it immediately. Eminent French authorities say to use one tablespoon of carbonate of ammonia for producing the same results.

If green vegetables are wilted, soak them for more than an hour in pure cold water.

Onions should always be boiled in hard water salted, because they lose much of their flavor and aroma if boiled in pure soft water.

String beans usually need to boil for forty-five minutes. The addition of a small bit of salt pork will generally minimize any rank flavor and will improve them. When done, drain thoroughly, season with salt, pepper and butter.

Turnips, carrots, cabbage and onions should be boiled in a great deal of water and taken up immediately and drained when sufficiently done. Overcooking destroys the taste, and too little water will allow them to turn dark in color.

New potatoes are the best baked.

A very little sugar added to tomatoes, squash, peas, corn, beets and turnips will improve them.

Turnips will cook more quickly when cut into thin slices, otherwise they will need to cook a long time.

Cauliflowers should be tied in a net to prevent boiling to pieces.

Summer squash should be steamed and not boiled.

Put a piece of bread the size of an egg into a cheesecloth bag and drop into a pot of boiling greens to absorb the odor.

A little pinch of cayenne dropped into boiling cabbage, green peas, onions, etc., will lessen the disagreeable odor.

All dried leguminous vegetables, such as dried beans, peas, etc., should be put on in cold water, and when they reach the boiling point should be allowed to simmer until done.

Domestic Hints.

Baked Tomatoes. — Wipe and remove a thin slice from the stem end of the tomato. Take from the center the seeds, not the pulp, season with salt and pepper, and place in a well-buttered pan. Bake twenty minutes.

Cold Strawberry Sauce. — Hull, wash and drain a basket of ripe strawberries and press through a potato masher. Boil together three-quarters of a cup of sugar and half a cup of water for ten minutes. Cool thoroughly, add the strawberry pulp and if desired a half teaspoonful of vanilla. This is particularly palatable with blanc mange or cottage pudding.

Farina Croquettes.—Put one-half pint of milk into a double boiler, add slowly four level tablespoons farina, stir till it thickens, then remove from the fire, add the yolks of two eggs well beaten, one-half teaspoon salt, a dash of pepper and one teaspoon fine chopped parsley; turn out to cool. When cold form into cylindrical croquettes, dip into egg, then in bread crumbs and fly in hot, deep fat. Drain and garnish with parsley.

Vegetable Soup.—Prepare and chop fine sufficient carrot, turnip and celery to measure one-half of a cupful each; one scant pint of finely diced potato and one onion thinly sliced. Put the potato aside, mix the other vegetables, and brown slowly in four tablespoonfuls of clarified dripping. Add the potatoes and cook for a few moments longer, then add one quart of boiling water, cover closely and simmer for an hour and a half, stirring occasionally to thoroughly mix and break up the vegetables. Season well with salt and pepper, add one tablespoonful of finely chopped parsley and serve.

Baked Souffle Potatoes. — Select potatoes which are of the same size. Wash and scrub them thoroughly and bake in a very hot oven. As soon as tender cut the top from each and scoop the potato into a heated bowl. Mash smoothly, adding for each potato one-half of a tablespoonful of butter and one tablespoonful of cream. Season with salt and pepper to taste and whip until light. For half a dozen potatoes whip the whites of two eggs to a stiff, dry froth, cut them lightly into the mixture and refill the shells. Arrange in a pan and return to the oven until heated through and a pale brown on top.

Tea Punch.—Tea punch continues to be the favorite beverage at five o'clock teas. To compound it, allow one tablespoonful of any strong tea to a quart of boiling water. Pour the water on the tea and allow it to stand until cold. Strain. Meantime, add to a pint of sugar the juice of three lemons, the juice of three oranges, the pulp and juice of one shredded pineapple, and allow all to stand until the sugar is dissolved. When ready to serve, add the tea to the fruit juice and pulp, with a quart of appollinaris water and box of fresh berries or thinly sliced peaches. Pour over a block of ice in the punch bowl and serve.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 6, 1899.

Chicago Wheat Futnres.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	71⅛@72½	75 @75⅝
Thursday	72¼@71¾	75¾@71⅞
Friday	72½@71½	75½@74⅝
Saturday	71⅞@71¼	74¾@74¾
Monday	*—@—	—@—
Tuesday	71½@70¾	—@—

Liverpool Futnres.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 9⅝d	5s 11¾d
Thursday	5s 9⅝d	5s 11⅝d
Friday	5s 9½d	5s 11½d
Saturday	5s 9½d	5s 11⅜d
Monday	5s 9½d	5s 11¼d
Tuesday	5s 9½d	5s 11¼d

San Francisco Futnres.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 11½@1 11¼	1 16⅜@1 16½
Friday	1 11½@1 11⅜	1 16¼@1 16¼
Saturday	1 10¾@1 10⅞	1 16 @—
Monday	*—@—	—@—
Tuesday	1 10¼@1 10½	—@—
Wednesday	1 10½@1 10⅝	1 15⅝@1 15¾

*Holiday.

Wheat.

The wheat market has been following much the same lines as during preceding week, with little doing in spot offerings and speculative values sagging. Spot values are nominally off about 25c per ton, but no noteworthy purchasing could he affected at the lower figures. Chicago futures declined a cent or more per bushel during the week, while in the Liverpool market the drop in prices of options was the equivalent of about 1c per cental. On the local Call Board prices receded 1c per cental since last review, with trading of a light order, holiday observances in the meantime interfering considerably with trade. At this writing (Wednesday noon) options are just a shade better than yesterday.

The export movement of wheat continues light from this port, with poor prospects of any material increase in the near future, owing to scarcity of ships and high freights. While it may not appear so at first sight, it is a good thing from the wheat producers' standpoint to have ocean freights temporarily high, and it would not he deplorable under the present stringency to have £2 or more per ton asked on wheat transportation to Cork, U. K., for orders, usual option as to final destination. The higher the present rate the greater the quantity of shipping likely to he attracted here later on, and the better the prospects for an easier freight market. Abnormally high figures are apt to he followed hy a decline to rates as much helow the normal as they had been previously above, and this would inure to the benefit of wheat, particularly as much more grain would go forward at the lower than at the higher freight rates. A bid of £1 15s per ton was refused the past week for the charter of a grain ship of medium side. The ship in question, at the figure above named, would realize not less than $22,000 freight money on a full cargo, while the ship couid make the voyage profitahly for $15,000. There were nine wheat clearances from this port last month, hut some of these were only part cargoes, the aggregate for the month heing only a little over 12,600 tons, and for the first two months of the current cereal year foot up 28,800 tons, with a valuation of $630,000, as against 21,200 tons a year ago, valued at $560,000, and 68,000 tons two years ago, representing a value of $2,000,000. Never did farmers hold on to wheat more tenaciously so early in the season, either on this coast or in the East, as they are doing at present. As money is plentiful and rates of interest are low, there is more than ordinary encouragement for the grower to carry his grain. At the same time, there is more than enough wheat offering for the immediate limited demand, and huyers are sparing no efforts to cry down prices as much as possible. This will continue to he the case so long as supplies remain principally in first hands, and importing countries are not heing pinched for immediate deliveries.

California Milling	$1 06¼@1 12½
Cal. No. 1 shipping, alongside	1 03¾@1 05
Oregon Valley	1 03¾@1 07½
Walla Walla Blue Stem	1 05 @1 10
Walla Walla Club	1 00 @1 07½
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.11⅛@1.10¼.

May, 1900, delivery, $1.16⅝@1.15⅝.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.10¼@1.10⅝; May, 1900, $1.15⅝@1.15¾.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s2½d@6s3d	6s0½d@6s1¼d
Freight rates	25@27½s	35@—s
Local market	$1.10@1.15	$1.03¾@1.06¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

LOCAL STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on August 1st and September 1st:

Tons—	August 1st.	Sept. 1st.
Wheat	78,185	*149,316
Barley	25,865	†60,591
Oats	1 291	2,832
Corn	269	290

Stocks of wheat in Call Board warehouses on 1st inst. show an increase of 71,131 tons for month of August. A year ago there were 64,391 tons wheat in Call Board warehouses.

* Including 96,453 tons at Port Costa, and 51,524 tons at Stockton.

†Including 39,078 tons at Port Costa, 15,433 tons at Stockton.

Flonr.

There is no improvement to note in the general condition of this market, either as regards tone or quotable values. There is not much doing on local account, hut there is a fair outward movement, particularly to the Orient, the last China steamer taking 18,277 harrels, most of this flour heing delivered on contracts and at comparatively low figures.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy hrands, jobhing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

The market for this cereal presents a little hetter tone than during preceding week, with demand more active, particularly in the interior. Considering the heavy inroads which have heen made upon supplies lately by shipments to Europe, the market should show more firmness than exists. In the past two months the shipments of harley from this port have aggregated 60,000 tons, the hulk of it going to Great Britain and Belgium. For corresponding period last year the shipments were less than 2300 tons, while for July and August two years ago the exports footed up 63,000 tons, hut the latter quantity was out of much more liheral stocks than are available the present season. Allowing a fair average for home consumption, it is douhtful if remaining supplies will admit of much more heing forwarded to Europe out of the 1899 crop. The Hawaiian Islands have always taken considerahle harley from this market, hut have lately drawn more than ordinarily, and are likely to continue purchasing on recent liberal scale through the halance of the season. In the speculative market the hears were not able to make their presence felt with the same force as during preceding week. Buyers were in the majority most of the time since last review and prices of options were at a higher range than last quoted.

Feed, No. 1 to choice	82½@ 85
Feed, fair to good	77½@ 81¼
Brewing, No. 1 to choice, new	90 @ 97½
Chevalier, No. 1 to choice	1 17½@1 22½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed harley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 81¼@83¼c.

December, 1899, delivery, 82¾@84⅛c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 83⅞@84½c; seller 1899, new, —c.

Oats.

Values have not changed materially during the current week, nor are they likely to show radical change for the next few months, or until the bulk of early deliveries has heen made. Receipts for the season to date have heen quite liheral, as compared with previous years, footing up 7,200 tons, as against just ahout half the quantity for corresponding date in the two seasons immediately preceding. Exports show ahout the same ratio in favor of the present year, shipments for the past two months aggregating 450 tons, against less than half that quantity for corresponding period in either 1898 or 1897. Recent supplies have heen largely Red oats, and they have heen favored with good custom at the comparatively low prices established.

White Oats, fancy feed	1 25 @—
White, good to choice	1 12½@1 20
White, poor to fair	1 05 @1 10
Gray, common to choice	1 10 @1 20
Milling	1 15 @1 20
Surprise, good to choice	1 35 @1 40
Black Russian	90 @1 05
Red	95 @1 10

Corn.

Market is not showing any noteworthy activity, the demand being of a rather slow order, and stocks of only moderate volume. Such transfers as were effected were at generally unchanged values. Present supplies are mostly large Eastern yellow and white. There is little small yellow on market, and no prospects of there being much until new crop domestic hegins to arrive. That there will be at any time during the season heavy quantities of latter description is not probahle.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 40 @ —
Eastern Mixed	1 00 @1 02½

Rye.

Stocks in this State have heen materially reduced hy recent shipments to Europe. It is douhtful if there is much surplus now remaining. Values are quotably about as last noted, with trade light.

Good to choice, new	92½@ 97½

Buckwheat.

No new has yet come forward, hut arrivals are now due. In the absence of spot supplies, values for the time being are not well defined.

Good to choice	2 00 @2 15
Sliverskin	— @ —

Beans.

There are no evidences of previous conditions having heen materially disturhed since former review. Trade is light at present. Most huyers who are not in actual need prefer awaiting arrivals of new crop, rather than stocking up from present supplies. Holders of heans are not disposed to crowd matters, so there is little or no anxiety manifested on either side. There is nothing to indicate that offerings of new will prove especially heavy of any variety, or that values for desirable qualities will descend to low and unprofitable levels. According to reports of the current year's seeding, new crop is expected to run largely to Bayos, Pinks and Lady Washingtons or Large Whites. The yield of Limas will certainly prove light, not only on account of season heing unfavorahle, hut more especially to greatly reduced acreage.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 70 @1 80
Butter, small	3 75 @4 00
Butter, large	— @—
Pinks	2 20 @2 30
Bayos, good to choice	1 70 @1 80
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	3 75 @4 00
Horse Beans	— @—
Garhanzos, large	2 75 @3 00
Garhanzos, small	1 60 @1 75

Advices hy recent mail from New York give the following review of the hean market in that center, prices quoted heing per 60-lh. hushel:

For Marrow heans the market has ruled a little higher, and there has been a strong undertone all the week. It would seem from late advices as if this variety had suffered most from the drouth, and interior shippers have taken such a firm view of the situation that it has reflected a confident tone here. Jobhing business has continued light, however, and exporters have had only a few orders; these were filled mainly at $1.55, and that price is still current, though some lots are held fractionally higher. Medium and Pea have had a sluggish demand from the usual sources of trade, but early in the week the Government purchased 600,000 lbs. for the sufferers in Porto Rico, about one half of which were State heans and the balance Candian stock in hond. This afforded considerahle relief and strengthened the feeling on all qualities. Exporters have had only moderate orders for Red Kidney and these were filled at $1.65@1.70 f. o. b., the latter figure now being asked quite generally. White Kidney very slow. Yellow Eye have had a little more call and stock has heen cleaned up more closely, with a shade better feeling within a day or two. Very few Turtle Soup have been moved. Lima have ruled quiet, jobhing sales mainly at $2.80, but some lots on the docks have sold for less. Not many green or Scotch peas here, hut western advices are easier and the wants of the trade are light.

Dried Peas.

Stocks and offerings are light, hoth of old and new. The samples of new so far presented do not show very desirahle quality, hut they are not from localities where the best peas are grown. Choice green would prohably command an advance on quotations.

Green Peas, California	1 85 @2 00
Nlles Peas	1 65 @1 75

Wool.

In the way of shipments the past week it is noteworthy that ahout 48,000 lhs. wool went forward per China steamer for Japan. A woolen mill once operated in this city went out of husiness, the owners finding it unprofitahle, and the plant was subsequently purchased at a very low figure hy the Japanese. The shipment of wool ahove noted is destined for the mill herewith mentioned. Two or three times a year shipments of wool are made from here to Japan on account of this plant. There is little doing on either Eastern or local account, and not likely to be any special activity in shipping circles for some weeks to come. Values are nominally in same position as last quoted, and no prospect of prices heing hetter defined until Fall wools of the good to choice grades are here in sufficient quantity to admit of wholesale operators taking hold in noteworthy manner.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	—@—
Northern, free	—@—
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

A lumber vessel clearing this week for Australia carried as part cargo 110,700 lhs. hops. This is the heaviest shipment made outward for some time. Whether the hops were of last year's crop or older is not stated, but they were certainly not new. They were prohably of the 1897 crop, or what the trade would denominate as "old" hops, there heing sufficient quantity of the sort designated to admit of a shipment of this magnitude. The value given on the manifest was 5c per lb. New have appeared on market in moderate quantity, hut no noteworthy business in the same has heen yet effected, dealers showing no hurry ahout operating. As intimated in previous issues, the generally good condition of the European crop is causing a weak tone to prevail for American hops.

Good to choice, 1899 crop	12 @14

The following report of the hop market, from a New York authority, comes through hy recent mail:

This is the most critical time for hops, consequently the crop is being watched with very great interest. Taking a survey of the entire field, at home and aboard, we do not think that the outlook is much different from a week ago. Estimates of the English crop are coming to hand, and none of them run helow 500,000 cwts, while considerably higher figures are given by some. It will be surprising if the yield is much above 500,000 cwts in view of the fact that last year's crop was officially announced as 356,000 cwts; still the season has been very favorable, with the exception of dry weather in midsummer. On the continent there will probably be some increase over last year. From New York State reports are very conflicting. Growers have had to contend with weak yards, dry weather and lice in some sections, so that it is generally believed that the yield will fall below last year, which was a light crop. Some of the early seedlings have already been picked and a few sales reported at 15@16¾c; there is talk of starting on the main crop next week, but we are afraid that farmers will pick too early. The hops should he allowed to fully mature, and then the picking should he very clean. For two or three days picking has been in progress in the Sacramento Valley and it will extent northward rapidly, though harvest in Oregon may not he in full swing for at least ten days. The Pacific coast is expected to turn out fully 10% more hops than last year. The market here and elsewhere is a waiting one. Buyers are apparently indifferent, and remaining stocks are so moderate as to prevent any serious pressure to sell. The few sales making are in range of our figures.


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are good wheels and they make a wagon last indefinitely. They are made high or low, any width of tire, to fit any skein. They can't get loose, rot or break down. They last always. Catalog free.
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Hay and Straw.

There has been entirely too much hay coming forward for immediate requirements, and more would have been shipped in if transportation facilities and track room here would have permitted. For a healthy market, receipts should not average over 400 tons per day. On Saturday last over 1200 tons came to hand. Further comment would seem to he unnecessary in explanation of the weak and demoralized condition of the market. The prospect of any hetter state of affairs in the near future is not hright.

Wheat	7 00@ 9 00
Wheat and Oat	7 00@ 8 50
Oat	6 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	—@—
Compressed	8 00@10 00
Straw, ₱ hale	25@ 40

Millstuffs.

Most kinds were in ample stock for immediate requirements. The quotahle range of prices and the general tone of the market remained practically as last noted.

Bran, ₱ ton	15 50@16 50
Middlings	18 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

Mustard Seed is in fair request, mainly for shipment, at the current rates. In other seeds there is not enough offering to admit of any business of consequence being transacted.

	Per ctl.
Mustard, Trieste	3 15@3 25
Mustard, Yellow	3 25@—
Flax	—@—

	Per lb
Canary	3½@4
Rape	3 @4
Hemp	4¼@4½
Alfalfa, Utah	—@ —

Bags and Bagging.

Market for Grain Bags is irregular and unsettled. Outside holdings have heen offering at materially less than combination rates. The season is ahout ended, and there is naturally no desire to carry hags at present figures into next season. Fruit Sacks are are ruling moderately firm. In other lines there are few quotahle changes.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain hags, 22x36, spot	7 @—
State Prison hags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@27
Gunnies	—@11¼
Bean bags	4¾@ 5¼
Fruit sacks, cotton	5½@ 6¼

Hides, Pelts and Tallow.

The Hide market is ruling steady, with receipts light. The tendency on Pelts is to a slightly lower range of prices. Tallow is meeting with fair custom at unchanged figures.

Only select hides, clean and trimmed, can he relied on to hring full figures. Culls of all kinds, either from gruhs, cuts, hair slips, side hrands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lhs	10@10½	9@ 9½
Medium Steers, 48 to 56 lhs	9@ 9½	8@ 8½
Light Steers, under 48 lhs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lhs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lhs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lhs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, hest summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4	@ 4½
Tallow, No. 2	3½	@ 3¾
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

Values are heing well maintained at current range, with stocks light, hoth here and in the interior, and demand of very fair proportions.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amher Comh	8 @10

Beeswax.

Not much offering, nor is there prohahility of stocks proving heavy any time this season. Prices are unchanged.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Beef is commanding steady rntes with offerings moderate and demand fair. Mutton is relatively in hetter supply than heef, hut prices for same are heing fairly sustained. Veal and Lamb are in very light receipt and market firm. Hogs continue to arrive sparingly from points in this State, compelling

dealers and packers to draw on the East for a portion of supplies.

Beef, 1st quality, dressed, net ℔ lb	8	@	—
Beef, 2d quality	7	@	8
Beef, 3d quality	6	@	7
Mutton—ewes, 7@—c; wethers	7	@	7½
Hogs, hard grain fed, medium	5¾	@	6
Hogs, small, fat	5¾	@	6
Hogs, large hard	5¾	@	5½
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ℔ lb	9	@	11
Veal, large, ℔ lb	8	@	8½
Lamb, spring, ℔ lb	8½	@	—

Poultry.

The unusual heavy arrival of Eastern poultry, seven carloads arriving the past week, caused a very soft market for domestic product. Broilers in fine condition and extra large and fat Hens sold to fair advantage, but market for most other kinds of poultry dragged at comparatively low figures.

Turkeys, young, ℔ lb	16	@	18
Turkeys, live hens, ℔ lb	14	@	15
Turkeys, live gobblers	14	@	15
Hens, Cal., ℔ doz	4 00	@	5 00
Roosters, old	4 00	@	4 25
Roosters, young, (full-grown)	4 00	@	5 00
Fryers	3 50	@	4 00
Broilers, large	3 00	@	3 50
Broilers, small	2 50	@	3 00
Ducks, ℔ doz	3 50	@	5 00
Geese, ℔ pair	1 25	@	1 50
Goslings, ℔ pair	1 50	@	2 00
Pigeons, Old, ℔ doz	1 25	@	1 50
Pigeons, Young	1 50	@	1 75

Butter.

The market for fresh butter is showing less activity and the tone is not so buoyant as prior to last review. The advanced figures last quoted caused considerable trade to drift from fresh to packed descriptions. There has been in consequence a tendency to accumulations of stocks of fresh, particularly of other than most select qualities.

Creamery extras, ℔ lb	27	@	—
Creamery firsts	26	@	—
Creamery seconds	25	@	—
Dairy select	24	@	25
Dairy seconds	20	@	22½
Dairy, soft and weedy	—	@	—
Mixed store	14	@	15
Creamery in tubs	18	@	20
Pickled Roll	18	@	20
Firkin, Cal., choice to select	18	@	20
Firkin, common to fair	15	@	16

Cheese.

For most desirable qualities, such as select marks of mild-flavored new, only a few weeks from the press, the market is firm, and for cheese of this description higher rates than are quotable are realized in a small way. There are fair supplies of held cheese, and prices for the latter do not incline particularly against buyers.

California fancy flat, new	11	@	—
California, good to choice	10	@	10½
California, fair to good	9	@	9½
California Cheddar	—	@	—
California, "Young Americas"	10	@	12

Eggs.

Very few strictly fresh eggs are arriving, and for such as are in every way suited for the most particular trade, comparatively stiff prices are realized, in some instances 1@2c above utmost figure warranted as a quotation. The firmness of the market, however, is confined to above description. Eastern and local cold-storage eggs are plentiful and are offering at generally easy figures.

California, select, large white and fresh	31	@	—
California, select, irregular color & size	27½	@	30
California, good to choice store	22	@	25
Eastern, as to section and grading	18	@	24
Eastern, cold storage	—	@	—

Vegetables.

Changes in quotable values or the general tone of the market were not numerous or very pronounced during the past week. Most kinds were in sufficient supply to enable consumers to stock up at low prices. Corn, Beans and Tomatoes were all in free receipt. Onions were lower than last quoted, owing to purchasers on Australian account having about enough for the present.

Beans, Wax, ℔ lb	1½	@	2½
Beans, String, ℔ lb	1	@	2
Beans, Lima, ℔ lb	2	@	2½
Cabbage, choice garden, ℔ 100	50	@	60
Cauliflower, ℔ doz	50	@	—
Corn, Alameda, ℔ crate	75	@	1 00
Corn, Green, ℔ sack	25	@	75
Corn, Berkeley, ℔ crate	40	@	75
Cucumbers, Alameda, ℔ large box	20	@	35
Cucumbers, ℔ small box	—	@	—
Egg Plant, ℔ box	25	@	50
Garlic, new, ℔ lb	2	@	3
Mushrooms, Buttons, ℔ lb	—	@	—
Mushrooms, wild, ℔ box	—	@	—
Okra, Green, ℔ box	30	@	60
Onions, Yellow, good to choice, cental	75	@	85
Onions, New Red, ℔ cental	—	@	—
Peas, Sweet, Garden, ℔ lb	3	@	4
Peas, common, ℔ lb	1½	@	2½
Peppers, Green Chile, ℔ box	25	@	40
Peppers, Bell, ℔ large box	35	@	50
Rhubarb, ℔ box	—	@	—
Squash, Bay, ℔ large box	—	@	—
Squash, Marrowfat, ℔ ton	—	@	—
Squash, Summer, ℔ box	20	@	30
Tomatoes, River, ℔ box	20	@	35
Tomatoes, Bay, ℔ box	25	@	50

Potatoes.

Market has been decidedly firmer for Burbank seedlings, the shipping demand showing improvement. River Reds moved slowly and were quotably lower. Garnet Chiles were held about as last quoted. Sweets were in light supply and market was firm in tone.

Burbanks, River, ℔ cental	60	@	90
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	—	@	—
River Reds	90	@	1 00
Early Rose	50	@	75
Garnet Chile	75	@	90
Burbanks, Salinas, ℔ cental	1 00	@	1 25
Sweet River, ℔ cental	1 75	@	2 25
Sweet Merced	—	@	—

The Fruit Market.

Fresh Fruits.

It was the exception the past week where desirable qualities of fresh fruit of any description were in excessive supply. More particularly was this the case in regard to tree fruit. Choice to select apples were in light stock and in good request, with likelihood of the demand being still better as the season advances. Select Graveustein in four tiers, or equally desirable varieties, meet with prompt attention and are quotable up to $1.25 per box, with occasional sales in a small way at higher figures. Common qualities of apples are not eagerly sought after, and where buyers are found they refuse to operate at other than low prices. The Pear market was decidedly strong for high grade Bartletts, both for offerings in bulk and for packed in free boxes. Choice Mountain Bartletts were held as high as $50 per ton, but it was the exception where the fruit was sufficiently select to command this figure. Peaches were in very fair receipt and market could not be termed particularly firm, but prices averaged about as well for producers as for preceding week, certainly were no lower on choice to fancy stock. Market for Plums and Prunes was without appreciable change, but only on extra choice, large, and in every way desirable, was there anything like firmness displayed or noteworthy competition from the buying side. Figs were scarce and firmer. Grapes were in moderately heavy receipt, with the bulk of offerings of rather ordinary quality, and this caused the market to incline against sellers. Berries in season did not meet as a rule with very lively inquiry, and prices were in consequence maintained at a tolerbaly low range.

Apricots, good to choice Royal, ℔ ton	—	@	—
Apricots, Royal, ℔ box	—	@	—
Apricots, Pringle, ℔ box	—	@	—
Apples, fancy, ℔ 50-lb. box	—	@	1 25
Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ℔ 50-lb. box	75	@	90
Apples, Green, common to fair, ℔ 50-lb. box	25	@	50
Blackberries, ℔ chest	3 00	@	4 50
Cantaloupes, ℔ crate	50	@	1 00
Cantaloupes, Nutmeg, ℔ crate	25	@	50
Cherries, Black, ℔ box	—	@	—
Cherries, Red, ℔ box	—	@	—
Cherries, Royal Anne, ℔ box	—	@	—
Cherries, White, ℔ box	—	@	—
Crabapples, ℔ small box	35	@	60
Currants, ℔ chest	—	@	—
Figs, Black, 2-tier box	50	@	75
Figs, White, ℔ box	30	@	60
Gooseberries, ℔ lb	—	@	—
Gooseberries, ℔ 10-lb box	—	@	—
Grapes, Black, ℔ crate	35	@	60
Grapes, Fontainebleau, ℔ crate	—	@	—
Grapes, Muscat, ℔ crate	40	@	60
Grapes, Tokay, ℔ box, 35@50c; ℔ crate	40	@	75
Grapes, Seedless, ℔ box, 40@65; ℔ crate	50	@	75
Grapes, Isabella, @ crate	75	@	1 00
Logan Berries, ℔ chest	6 00	@	7 00
Nectarines, Red, ℔ box	—	@	—
Nectarines, White, ℔ box	—	@	—
Peaches, fancy wrapped, ℔ box	75	@	90
Peaches, ℔ box	30	@	75
Pears, Bartlett, No. 1 to choice, ℔ ton	35 00	@	50 00
Peaches, Clingstone, ℔ ton	15 00	@	25 00
Peaches, Freestone, ℔ ton	15 00	@	25 00
Pears, Bartlett, ℔ 40-lb. box, wrapped	75	@	1 50
Pears, common, ℔ basket	25	@	50
Pears, ordinary, ℔ box	25	@	60
Plums, large, ℔ ton	15 00	@	20 00
Plums, large, ℔ crate	40	@	65
Plums, ℔ box	25	@	50
Plums, Cherry, ℔ drawer	—	@	—
Raspberries, ℔ crate	—	@	—
Raspberries, ℔ chest	3 00	@	5 00
Strawberries, Longworth, ℔ chest	6 00	@	7 00
Strawberries, Large, ℔ chest	3 00	@	4 00
Watermelons, ℔ 100	5 00	@	20 00
Whortleberries, ℔ lb	2½	@	4

Dried Fruits.

There is a fair amount of trade, but in certain lines, notably that of Peaches and Prunes, much more custom than exists could be readily accommodated. Peaches are being crowded to sale in entirely too rapid a manner for a healthy market, a large proportion being ordinary Chinese cured stock. Naturally the market shows decided weakness, and for common qualities it is particularly against sellers. The ordinary run of choice in the San Joaquin were obtainable this week at 5c per lb. Chinese cured were quoted down to 4c, although anything obtainable at this figure was of poor quality. Packing houses in numerous districts were reported crowded to their utmost capacity. Buyers operated cautiously, being timid, as they invariably are on a weak and declining market. At the same time, fancy Unpeeled and Peeled Peaches are not much in evidence, and that there will be necessity of slaughtering stock of this sort is highly improbable. Strictly fancy Unpeeled were quotable up to 7½c, and Peeled of high grade were quoted nominally at 12½@14c. The Prune market is in unsatisfactory condition for the producer. The last of the 1898 crop is not yet off the market, although nearly so, and new have been already forwarded East. Last year Oregon stood in the way, underselling California. This year not much competition is looked for from Oregon, but the California crop is larger. Buyers are not operating freely and the conditions are unfavorable for the exertion of selling pressure. San Joaquin Prunes have been sold at 2½c in bags for the four sizes, which is equivalent, at the customary rating, to 2¾c for Santa Claras, although the latter are held on a 3¼c basis for the four sizes, immediate delivery, and at 3c for later deliveries. These are discouraging figures for the grower. It is very evident that either new fields must be opened for the consumption of this fruit or else there must be decreased production. Market for other dried fruits is in the main showing steadiness.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10	@	12
Apricots, Royal, fancy	12	@	13
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7	@	7½
Apples, 50-lb. boxes, rings, pressed, good to choice	6½	@	7
Figs, White, fancy pressed	8	@	8½
Peaches, unpeeled, good to choice	4½	@	5½
Peaches, unpeeled, fancy	6½	@	7½
Peaches, peeled, in boxes	—	@	—
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½	@	8½
Plums, pitted	5	@	6
Prunes, in sacks, 40—50's	4½	@	4¾
50—60's	4	@	4¼
60—70's	3½	@	3¾
70—80's	3	@	3¼
80—90's	2½	@	2¾
90—100's	2	@	2¼
110—130's	1¼	@	1¾

Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	3	@	—
4 sizes San Joaquin and Northern	2½	@	2¾
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4	@	5
Apples, quartered	4	@	5
Figs, Black	2	@	3
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Mail advices of late date from New York report the dried fruit market in the East as follows:

Old evaporated apples are in such small remaining stock that values are nominal and we omit quotations. New evaporated apples have commenced to arrive in quantity, and while no car lots have appeared the offerings have been sufficient to supply the moderate jobbing trade passing. Opening prices for new are about the same as closing rates were on old; if anything the figures have averaged a shade higher for new as the fruit is showing exceptionally fine quality. For prime, 8¼@8½c has generally been obtained but probably no important quantity could be placed above 8c. Choice are held at 9c, and small sales reported. Samples of strictly prime Canadian apples have been received showing the earliest production ever known. Crop reports on apples continue poor from nearly all sections. In this State drought is seriously affecting the crop and may cause a much larger quantity to be evaporated than previously expected as the dry weather will make much fruit too small to barrel profitably. No spot business is reported in chops; in fact little if any sound fruit left and no arrivals of new, causing quotations to be nominal. Futures are offering at 2⅛@2¼c for fall delivery. Cores and skins quiet; a small lot of new sold at 1⅝c and that figure is asked futures; little doing in old. Raspberries inquired for and firm and huckleberries are scarce and 1c higher. Blackerries lower under larger offerings and 4½c extreme. Cherries held very firmly—generally above quotation. New California peaches and apricots commencing to arrive quite freely and trade is opening rather slowly; small jobbing sales, especially Moorpark apricots, exceed quotations.

Apricots, Cal. Moorpark, 1899, per lb	14	@	16
Apricots, Cal. Royal, 1899, per lb	11¾	@	12¼
Peaches, Cal., 1899, unpeeled, in boxs. lb	7¾	@	9
Peaches, Cal., 1899, unpeeled, in bags, lb	8	@	8½
Prunes, Cal., 1898, per lb	3	@	8

Raisins.

Stocks in the hands of the Grower's Association have been nearly wiped out, but most of the recent transfers are still a long way from being consumed. The market shows healthy tone, however, and is in good shape for the advantageous disposal of coming crop. Rates for last year's offerings remain quotably unchanged.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—	@	—
Dehesa Clusters, per box	—	@	—
Fancy Clusters, per box	—	@	—
London layers, 3-crown, 20-lb box	—	@	1 20
London layers, 2-crown, 20-lb box	—	@	1 10
Valenola layers, ℔ 20-lb box	80	@	1 00

(Usual advance for fractions.)

Loose Musoatel, 4-crown, ℔ lb	5¼	@	5¾
Loose Muscatel, 3-crown	4¼	@	4¾
Loose Muscatel, 2-crown	—	@	—
Loose Muscatel, ungraded	—	@	—
Sultanas, unbleached	—	@	—
Seedless Musoatel	—	@	—
Thompson's Seedless, unbleached	—	@	6

(Above prices for loose raisins are for 50-lb boxes.)

Dried Grapes	2½	@	2¾

Citrus Fruits.

Market for Lemons is without particular change. There is a moderate demand for select, these selling as a rule at full current rates, but the more common qualities are moving slowly and at low and irregular prices. Limes are offering at about the figures last quoted.

Lemons—Cal., select, ℔ box	2 75	@	3 25
Cal., good to choice	1 75	@	2 50
Cal., common to good	1 00	@	1 75
Limes—Mexican, ℔ box	4 00	@	5 00
Cal., small box	75	@	1 00

Nuts.

Almond market is firm, with prospects of continuing so throughout the season, the shipping demand being good. New crop Walnuts are expected on market about Oct. 1st, and may appear a little sooner. Prices have not yet been named. Peanut market is very firm and scantily supplied.

California Almonds, paper shell, ℔ lb	11	@	13
California Almonds, soft shell	8	@	10
California Almonds, hard shell	7	@	8
California Almonds, shelled	—	@	—
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	—	@	—
Walnuts White, Cal., standard	9	@	10
Chestnuts, Cal. Italian	—	@	—
Peanuts, Cal., fair to prime	5½	@	6
Peanuts, Eastern hand-picked	6	@	7
Pine Nuts	5	@	8

Wine.

A very quiet market is noted, as is to be expected at this time of year, and no particular change in this regard is likely to be experienced for several months to come. Quotable values continue as previously stated, 15@20c per gallon for new claret, San Francisco delivery, as to quantity, quality and other contions. The last steamer for the Orient, sailing on the 2nd, took a small quantity of wine, about 2000 gallons, for China and Japan. There is a fair movement eastward by rail.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	127,447	1,020,072	839,795
Wheat, ctls	77,086	761,843	671,619
Barley, ctls	178,892	1,525,253	231,475
Oats, ctls	29,723	143,962	75,920
Corn ctls	600	21,765	24,940
Rye, ctls	15,992	45,346	3,845
Beans, sks	1,403	33,078	36,571
Potatoes, sks	34,120	178,931	183,105
Onions, sks	11,821	47,960	42,566
Hay, tons	4,555	36,218	36,235
Wool, bales	819	14,263	11,804
Hops, bales	111	803	1,539

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	66,048	557,211	549,848
Wheat, ctls	65,188	575,935	425,729
Barley, ctls	161,501	1,171,427	45,764
Oats, ctls	2,052	8,759	4,287
Corn, ctls	349	3,331	3,207
Beans, sks	179	3,637	14,448
Hay, bales	4,752	18,814	6,531
Wool, lbs	.....	28,006	587,901
Hops, lbs	1,436	16,001	87,236
Honey, cases	266	1,384	1,168
Potatoes, pkgs	421	9,745	8,935

California Dried Fruit at New York.

NEW YORK, Sept. 6.—California dried fruits: Market quiet and steady. Evaporated apples, common, 7@7½c; prime wire tray, 8¼@8½c; choice, 8¾@9c; fancy, 9¼@9½c.

Prunes, 3¼@8c.

Apricots, Royal, 14@—c; Moorpark, 15@16c.

Peaches, unpeeled, 8@11½c; peeled, —@—c

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Proposed Removal of Arch Rock in San Francisco Harbor.

By Edward B. Durham, E. M.

Arch Rock is the largest and most prominent of a group of rocks in San Francisco harbor, that form a menace to shipping and which the United States engineers have decreed shall be removed to a depth of 30 feet below mean low water.

The group consists of Arch Rock, Shag Rock No. 1 and Shag Rock No. 2. The first two are familiar objects to all who cross the bay on the ferry to Sausalito. They are situated on a line drawn from Alcatraz to Sausalito, and almost directly in front of the Golden Gate. They are in the vicinity of the anchorage usually chosen by vessels while waiting inspection by the Government revenue and quarantine officials, as well as close to the track often taken by the ferryboats.

Not only are these rocks in the way themselves, but they are surrounded by strong tide currents, which make them still more dangerous. The tide has a velocity of 5 feet per second when at the height of its ebb flow and a velocity of 3 to 4 feet per second on the flood tide. The strength of the current is apparent by the constant surf about the rock, and it is with difficulty that a landing can be made from a rowboat.

The top of Arch Rock stands 30 feet above the low water plane, at which level it is about 40 feet east and west by 25 feet north and south and rectangular in shape. A little above the water line and extending 11½ feet below water is a hole, about 9 feet wide, cut through the rock from north to south, which gives it the arch-like appearance from which it receives its name. This is well shown in the photographs.

Below the water line the rock gradually spreads out, until at a depth of 30 feet it has a breadth from east to west of about 300 feet and a length from north to south of 350 feet, or, taking the irregular outline into consideration, it covers an area of $1\frac{6}{10}$ acres. This rock contains 25,512 cubic yards of material, according to the United States engineers' estimate.

Shag Rock No. 1 lies north of Arch Rock and has a projection above low water of only 8 to 10 feet and an area at the low water plane about 24x30 feet. Its volume above water is small, and is well illustrated by Fig. 3, which shows the north side and one of its inhabitants for whom it is named. Under water it spreads out so that at a depth of 30 feet it measures 95 feet from N.E. to S.W. and 140 feet from N.W. to S.E. It contains 3800 cubic yards of material above this plane.



Fig. 1.—South Side Arch Rock, San Francisco Bay.



Fig. 2.—East End Arch Rock, San Francisco Bay.



Fig. 3.—North Side of Shag Rock, San Francisco Bay.

Shag Rock No. 2 is about 250 feet southeast of Shag Rock No. 1 and is unknown to most landsmen, as it is covered at low tide by 17 feet of water. But at the 30-foot plane it is 120x140 feet and covers nearly twice the area of Shag Rock No. 1. Its volume, however, is only 2979 cubic yards.

The rock in these reefs is a metamorphic sandstone and seems identical with the rock on Telegraph hill, where large quarries have been in operation for a dozen or more years. The rock, both on Telegraph hill and on Arch Rock, is broken by a series of fissures into large blocks, and these in turn are filled with minor cracks, so that, as the rock is exposed to the weather, it breaks up into irregular cubes. The easy cleavage, together with the fact that the rock is not hard to drill, will make it comparatively easy to mine.

The bids for removing these rocks were opened at noon on Aug. 12, 1899, at the Engineers' office, Flood Bldg., San Francisco. Rudolph Axemann of Los Angeles, Cal., was the lowest bidder, his figure being $253,500, or about $8 per cubic yard. The other bids were: Perrine & Buckman, San Francisco, $352,000; City St. Improvement Co., San Francisco, $277,439.40; Pacific Construction Co., San Francisco, $520,000; C. A. Warren and Healy, Tibbitts & Co., San Francisco, $317,000; California Bridge & Construction Co., San Francisco, $559.350; Christie, Low & Heyworth, Chicago, Ill., $287,379; Dunbar & Sullivan, Buffalo, N. Y., $443,840.90; A. C. Bull, Jr., Eureka, Cal., $444,000—making the range of price from $8 to $18 per cubic yard for removing the entire 32,291 cubic yards. The bids were taken under advisement by Major W. H. Heuer, who will inquire into the responsibility of the bidders and their bondsmen before awarding the contract.

Until the opening of the bids, the interesting question was: Who will be the lowest bidder? Now all interest centers on who will receive the contract and how the work will be done.

Blossom Rock, in San Francisco harbor, and Flood Rock, in New York harbor, were mined out, leaving only a thin shell, and then a giant blast blew the remaining rock into fragments, which were then removed by dredgers. Other rocks have been removed by drilling holes in the rock by machines carried on scows or on platforms set on spuds, which rested on the bottom, charging the holes with explosive and firing by electric current, thus removing slab after slab from the side of the rock, as in quarrying. The debris has to be gathered up by a dredger, as before. Other rocks have been removed by special methods designed by the contractors.

Postmaster Lincoln of Santa Cruz has received word that the Scotts Valley and Braciforte districts have secured a rural mail delivery. This includes about 500 families.



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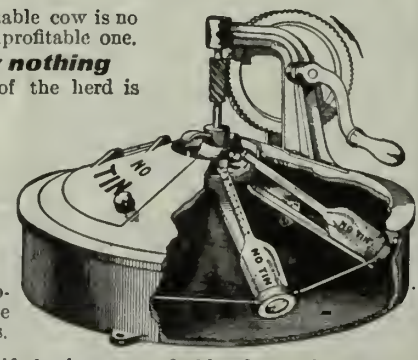
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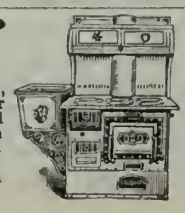
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Unprecedented Injury to Crops.

The "dry spell" in midsummer is long and ruinous this year in some parts of the East. What ruin is caused by lack of rain where it is unexpected, and where soils by their shallowness and insufficient cultivation cannot guard moisture from escape, is clearly shown from the following paragraphs, which we take from the New York *Tribune* of August 23:

MEDINA, N. Y., August 20. — The worst drouth in many years is afflicting Orleans county and western New York. A six weeks' drouth in May and June was relieved by only slight showers, and it is now seven weeks since there has been rain of any consequence. For several weeks there have been no dews, even—no moisture of any sort. Hay was less than one-half of a crop, wheat, oats and barley yielded far below the average, and beans, corn and potatoes are almost ruined. The damage can scarcely be estimated. Cucumbers for the pickling factories are less than one-sixth of a crop, and wilt on the vines. Small fruits have dried up on the bushes, unripe. Apples are a small crop anyway, and the drouth is baking them on the trees. The quality promised to be extra fine, but the fruit will be ruined unless a rain comes. There has been no soaking rain since April. The woods and country are like tinder, and bushes and stubble are burning in many places.

Thus far forest fires have not been serious, but it is feared that repetitions of last year's disastrous conflagrations in the big Tonawanda swamp district can be warded off only a little longer, although the rigorous efforts of the authorities have prevailed thus far. Streams and wells are drying up, and stock is suffering for water. There is a dangerous scarcity of water for fighting fire in many villages. Pastures are dried up, and in many instances farmers are feeding stock in barns, as though it were winter. Orleans county has experienced nothing like this in many years.

WARSAW, N. Y., August 20.—Allen Fargo says: "I never remember such a dry summer." The highways are a thick bed of powder, rendering cross-country wheeling only possible in a cloud of dust. Farmers riding in their sulky plows are enveloped in the flying particles of earth. There is a haze of smoke caused by the burning of grass, fences, brushwood, and in many places oats, barley and standing crops, which burn like chaff. The meadow lands are often burned over. Farmers try to whip out the fires, and some succeeded with the plow in stopping the spread of the flames. Springs, brooks and wells are dried up which never were known to fail heretofore. Liverymen urge patrons to see that their horses get water. Farmers are feeding their dairy stock winter food, as the pasture land is burned down. The leaves on trees quite generally hang wilted and are eaten off as high as the stock can reach. Farmers at many points are driving stock one and two miles to rivers and creeks, returning with wagons loaded with cans of water.

The cheese factories and butter making establishments have fallen off one-half in their productions.

ROCHESTER, N. Y. August 21.—No rain, in amount sufficient to meet the needs of the dying crops, has fallen in over two months, and the drouth has become alarming in its long continuance. The damage to the crops is great. The fields are dry, the ground is caked like burnt clay, and the dusty trees and all green things are slowly yellowing, as if they had been held close to a hot fire.

The wheat crop, while not a failure, has decreased in yield and value fully one-third below the average. Beans, which have been one of the most reliable mainstays of the farmers hereabouts, are small, dry and scanty. The corn crop is a failure, the ears do not fill out, and many grocers refuse to buy green corn for market use. Fruits, especially peaches, are small and half formed. Apples look well and plentiful, and are about the only fruit that the drouth has not injured. Many farmers have been forced to feed stock on the remains of last winter's fodder, while the outlook for next winter's supply is alarming. The wells and springs are drying up one by one, and men who own herds are thoughtful for the future. The lack of water has caused no end of trouble along the line railroad, and freights have been stalled on account of empty tanks.

Training Cavalry Horses.

Together with the new recruits for the Philippine campaign, several shiploads of cavalry horses are now on their way to Manila. It is a source of wonder to many persons how cavalry horses are trained to become accustomed to fire and military life in general. Each horse for our cavalry service costs the War Department about $65 in the initial stage. This is what the Government paid for the unbroken bronchos that were acquired for the Rough Riders last year, and the enormity of this price was one of the standing jokes among the cowboys and horsey men who served in the ranks under Wood and Roosevelt. The real value of the mounts was determined later at the Government auction sales the next autumn, when most of the horses were sold under the hammer for bids ranging from $5 to $70. The average price fetched was $25, but even this was paid for sentimental reasons rather than for the actual quality of the horse-flesh. As a rule, though, most of the horses secured for the regular cavalry are worth their full price, and are apt to advance in value as they continue in service. Mares and stallions are barred. After a horse has been accepted for the service, it is branded with the letters "U. S.," and has the same initials carved into one forward hoof. Then it is broken to the saddle at one of the Government riding schools.

The most trying part comes when the horse has to make its first acquaintance with fire. However easy it has been to train up to this point, every horse becomes frightened when guns begin to go off. One plan adopted is to strap the animal down to a plank and fire revolver shots near its head, accompanied by the rattle of tins.

After a few weeks of this training, shots can be fired with impunity near the horse's ear, and it will do little more than start. Then it is fit to be ridden in line under fire, and a month of such practise closes its military education. Such education once acquired is never forgotten by a horse.—Collier's Weekly.

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List of U. S. Patents for Pacific Coast Inventors.

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FOR WEEK ENDING AUGUST 22, 1899.

631,414.—FURNACE—J. A. Anker, Los Angeles, Cal.
631,692.—CAR WHEEL—J. W. Breeding, Bisbee, A. T.
631,693.—CAR AXLE BOX—J. W. Breeding, Bisbee, A. T.
631,620.—CORSET—R. Cousins, S. F.
631,710.—ELEVATOR—E. M. Fraser, S. F.
631,399.—GUN BARREL—H. P. Gillette, Roseburg, Or.
631,712.—ROCK DRILL—W. Gleeson, Unga, Alaska.
631,506.—NUT LOCK—J. Jorgenson, S. F.
631,507.—POLISHING ROLL—E. Kelly, S. F.
631,526.—DRAPER SLAT PROTECTOR—C. J. and T. T. Luckehe, Gridley, Cal.
631,431.—LOCK—P. Phelps, Seattle, Wash.
631,432.—LOCK—P. Phelps, Seattle, Wash.
631,433.—LOCK—P. Phelps, Seattle, Wash.
631,434.—LOCK—P. Phelps, Seattle, Wash.
631,443 —DOG HARNESS—B. A. Sammann, S. F.
631,477.—WAGON TRUCK—H. B. Schindler, Oakland, Cal.
631,680.—MINERAL EXTRACTOR — K. Staahlgren, Salinas, Cal.
631,535.—TAPPET—G. W. Waitt, S. F.
631,492.—SHAKE REGULATOR — R. G. Williams, Stockton, Cal.
631,602.—HAMMOCK SUPPORT—Wood & Taitt, Prescott, A. T.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong&Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

DRAPER SLAT PROTECTOR.—C. J. and T. T. Luckehe, Gridley station, Cal. No. 631,526. Dated Aug. 22, 1899. This invention relates to a device for protecting the transverse slats of canvas and for carrying belts commonly known as drapers, and to provide a means for readily removing broken slats and introducing new ones without removing the protecting portions. It consists of a canvas belt having leather straps extending along the edges and central portions of the belt in the direction of its travel, transverse slats extending across the top of the belt at intervals having the ends secured through the edges of the belt and through the straps beneath. Metal caps are fitted over the top, sides and ends of the slats, with bendable tongues and pins by which they are removably locked to the slats. Loops or keepers are fitted over the slats intermediate between the ends so that the slats can be slid through the loops to put them in place or remove them. These loops are riveted upon the central portion of the belt or these straps which pass beneath.

ELEVATOR.—E. M. Fraser, San Francisco, Cal. No. 631,710. Dated Aug. 22, 1899. This invention is designed to provide a means for automatically maintaining any desired tension upon the endless traveling ropes or cables by which the raising and lowering of the cage and connected parts are effected. The tension device is automatically operating. The rope passing from the car over a pulley is counterweighted at the opposite end, and guides are formed upon the counterweight. A second counterweigbt is slidable upon these guides, a rope passing from it over a pulley, and thence to a movable frame. In combination with these are independently actuated driving pulleys, with an endless rope or cable thereon and pulleys upon the main counterweight and the frame around which the said rope or cable passes.

NUT LOCKING DEVICE.—J. Jorgenson, San Francisco, Cal. No. 631,506. Dated Aug. 22, 1899. The object of this invention is to provide a means for locking nuts upon the ends of axles or shafts or for other like purposes. It consists essentially in the combination with a nut having a slot made in the outer end and a spring pressed lever fulcrumed to one side of the nut, having the outer end diagonally beveled, and an axle or shaft, the end of which has V-sbaped locking notches formed in the angle of the end in such a manner that the locking takes place from the end and side. In connection with this is a latch lever to engage the locking notches in the spindle end, and the long arm is tapered and extends around the side of the nut. A spring acts to normally force this end of the arm of the lever outwardly to cause the latch to engage with the notches of the spindle. This arm will be depressed whenever a wrench is placed upon the nut, thus disengaging the opposite end from the notches preliminary to turning the nut by the movement of the wrench, and when thus disengaged the nut can be easily removed.

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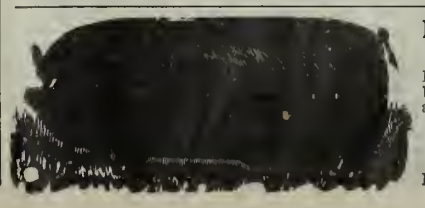
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FRUIT MARKETING.

The San Jose Meeting.

SAN JOSE, September 2.—A meeting that was attended by over 250 of the representative fruit growers from all sections of the county was held here this afternoon. There was a long and earnest discussion of the present grave situation as regards dried prune prices. The fact that there seems to have been established in the market for the season a 2½-cent per pound basis for the four sizes for prunes was declared to be ruinous, especially in view of the seeming certainty that even this may not be the lowest stage that will be reached either this season or the next. Many were of the opinion that the depression was caused by the fact that small growers all over the valley, the aggregate of whose product is great, have thrown their fruit upon the market too early at ruinous prices on account of the necessity of raising money immediately.

President Hersey of the fruit exchanges and Manager Crandall of the Sorosis Company said that their institutions and others of a similar nature in the valley could meet this emergency and had been able and willing to meet it at all times by making advances upon all dried fruit stock that was offered to them, only 6% interest being charged. In this manner it was believed that small growers could secure all the ready money they needed without meeting a loss through selling in a flat market and thereby also breaking down prices to the injury all growers and the business interests of the community generally. The opinion was expressed that exaggerated reports as to the extent of the present crop had been circulated by parties who were interested in bringing down fruit prices. A careful estimate placed the dried prune product of the county this year at from 63,000,000 to 65,000,000 pounds as compared with 60,000,000 pounds last year. In some quarters it has been stated that the yield would be double that of 1898.

A resolution to the effect that there should be no sales of prunes at less than a 3½-cent basis for the four sizes was passed amid much enthusiasm.

Chairman W. P. Cragin expressed much regret at the failure to organize the Pacific Coast Association this year. He was convinced from the outcome that half a million dollars would have been saved to the growers if the association could have handled the crop this year. The belief was expressed that the present costly object lesson of a falling market would have the effect of bringing the growers together for permanent organization and co-operation next year.

Raisin Clearance.

FRESNO, Sept. 2.—The biggest single raisin deal in the history of the California Raisin Association was consummated here to-day when 125 cars of three crown standard loose muscats were sold for over $100,000. The purchasers were Lee Gray, president of the Fresno Home Packing Company, and Thomas H. Lynch, manager for Porter Brothers. After the deal had been made other packers brought up what goods they had in their possession, with the result that 145 cars were sold for $115,000. This practically cleans up the crop of 1898.

More About Frog Farming.

A little pond of about two acres in extent, created by damning the flow of a spring where it moves through a depression in the farm, and this liberally grown to water lilies, Victoria regias and other aquatic plants—this is the equipment, stock and fixtures of an industrious family near Stege station, a few miles north of Berkeley, who have developed the quaintest enterprise for earning a living.

It is a rather curious fact that the pond was made, at least in part, by carp. This fish was the original inhabitant. Carp have a way of constantly swimming round and round in quest of worms or grubs and the tender vegetation growing along the banks, and they thus encroach upon them. Not wishing to own a lake stocked with carp instead of a farm, the proprietors concluded to try crevises or lobsters; but they were not a success, the climate being too cold.

Frogs were tried next and proved profitable. They are caught and sold the year round, except in spawning time—the best time, however, being from September to December.

Reproduction is from eggs, which come to the surface of the water in the form of a thick, white scum, resembling the white of an egg. This separates into globules; these globules grow, turn black, develop a tail and become the well-known pollywog. This stage is reached six weeks from the time the egg first appears. In two more months the pollywog has dispensed with his tail, and, instead, has evolved four legs. He is now a frog, and, like the rest of the animal kingdom, grows as fast as he can, and is ready for the market when one year old. As soon as he has developed from the pollywog into a little frog, all the large frogs must be caught and for a few weeks kept in a separate enclosure made for the purpose at one end of the pond, because the frog has cannibalistic instincts and the large frogs eat the little ones. As it is, many are lost in this way, for reproduction goes on to some extent continuously.

The price of frogs varies in the market, according to size, from $4 to $8 per dozen, the largest bringing the highest price. It is impossible to accurately estimate the number of eggs the female bears, but it is enormous. There are over 1000 frogs in the pond. In spawning time the water is literally covered with eggs.

The best edible frogs are raised in California—even France acknowledges that.

When frogs are shipped for stocking purposes, they are packed in wet moss and will live five or six days. A large order was recently filled by this particular firm for the Hawaiian Islands. In that case they had to be cared for on the way, fed regularly and the water changed. The food served them consists of oatmeal and liver, or oatmeal mixed with blood dried and then thrown into the water.

They are fished from a boat with a net attached to the end of a long pole. It takes time, much patience and not a little dexterity to catch them, for they will disappear and hide in the mud at the bottom of the pond at the least sign of danger.—Martinez Gazette.

"WHY do you call yours a parlor?" said the patient to the dentist. "What would you call it?" "Well, I should fancy drawing-room would be more appropriate."

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By local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free. F. J. CHENEY & CO., Toledo, O.
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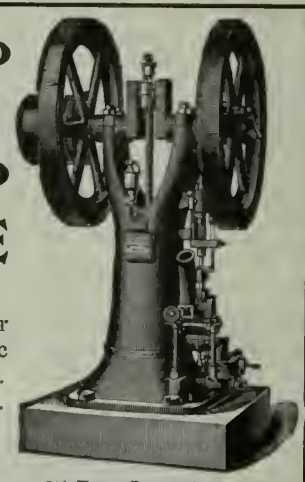
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Patrons of Husbandry.

San Jose Grange.

According to the *Mercury* the last meeting of San Jose Grange was held in Hale's Hall, Past Worthy Master Worthen presiding.

At the conclusion of the routine work of the lodge, Dr. James Lemmon, Worthy Master of the Los Gatos Grange, was introduced and made an interesting talk on the history and work of the grange in its formative period in Iowa, when the vigor and freshness of its use carried it forth to victory in civil and political matters. He explained the practical workings of co-operative buying and selling and what a saving it is to the farmer. He related the history of the organization in the county where he lived in matters political, told how they ferreted out the corrupt methods of the ring politicians in power at that time and through the active discussions of kindred subjects set the people to thinking and at the next election put up a ticket composed of honest farmers which was elected and the county has never to this day returned to the rule of machine politicians.

He also explained the wholesome effect of the discussions on improving the manner of farming, bettering the grade of stock and the quality of the products and making the farmers more prosperous. In those days the Grange was the controlling power not only in the county but in the State as well.

At the conclusion of the speech, the subject of a system of irrigation carried on the nation was suggested by S. P. Sanders, acting in the position of Worthy Lecturer, and was discussed briefly and was likewise made the subject for next week's discussion.

In this connection the Lecturer broached the question of the government ownership of all lands and said that he was in favor of this. This was strongly opposed by Overseer Coates and Captain Dunn.

The annual session of the State Grange will be held in Napa, commencing October 4th, and Mr. and Mrs. C. T. Meader were elected delegates from the San Jose Grange. The first Grange in this State was organized at Napa.

Tulare Grange.

To the Editor:—Tulare Grange held its first meeting after summer vacation on Saturday. Bro. Julius Forrer sent in his meteorological report for August. Highest temperature on the 1st and 15th, 104°; lowest 48° on the 22nd; average maximum, 95.87; mean, 75.61; minimum, 55.35. There were twenty-three clear days, seven fair days and one cloudy day; prevailing wind northwest.

The special committee appointed to interview the supervisors of this county and ask for and advocate an appropriation for the purpose of holding an agricultural fair for this district next October reported that, although the law provides for such an appropriation, and although a large number of representative citizens and tax-payers of this county had petitioned the Board to make the appropriation, it absolutely refused to make any appropriation for holding an agricultural fair as contemplated.

The subject of forestry preservation and conservation of water was brought up, discussed and the following resolutions were passed:

Whereas, Public attention having been drawn to the subject of forestry, its healthful climatic effects, its conservation of the rainfall, its great importance to agriculture and to the importance of its better systematic preservation; and

Whereas, The Forestry Division of the Department of Agriculture has now in contemplation a systematic examination and survey of the forests of California with a view to providing for the better preservation of our standing forests, for preventing the culpable denudation thereof, either by fire, the axe or pasturing, and for the afforesting of lands now deforested; therefore be it

Resolved, By Tulare Grange, No. 198, P. of H. of California, that we regard the accomplishment of this work, contemplated by the Forestry Division, will be timely and of great advantage to agriculture and to the State. As agriculturists and as an agricultural association, we cordially approve of the proposed examination and survey of the forests of California, and we herein ask our Senators and representatives in Congress to advocate and work for an appropriation by Congress, which will enable the Department to carry out the purposes and object herein contemplated.

The Lecturer exhibited a copy of Prof. Fairbanks' reader, "Stories of Mother Earth," and asked that a committee of three be appointed to examine the book as to its merits and the propriety of this Grange recommending it as a reader in our primary schools. The Worthy Master appointed Sisters Berry and Fleming and the Worthy Overseer appointed Bro. Tuohy. The committee is to report at next meeting.

A letter from Sister A. T. Dewey, acknowledging Grange resolutions of respect to her late husband, was read and filed.

Bro. E. C. Shoemaker was elected alternate to the State Grange to be held in Napa commencing on the first Tuesday in October.

Previous to the State Grange meeting, one more meeting of this Grange will be held, at which such subjects as this Grange desires to have considered by the State Grange will be discussed.

J. T.

Napa Grange.

To the Editor:—One of the liveliest, most progressive and stirring Granges in this State, albeit it is one of the youngest, is Napa Grange, P. of H. No. 307. Organized about one year ago it has now a membership of seventy or eighty members, representatives of the better class of farmers in the lower Napa valley.

A very noteworthy Harvest Feast was celebrated Saturday, Sept. 2nd. Worthy Master Greer of Sacramento of the State Grange and District Deputy Winans of Petaluma came to see what arrangements had been made for holding the State Grange here in Napa next month, and to inspect the local Grange. This was partially accomplished at the forenoon session. Four candidates were initiated at this time. Two long tables, loaded as only Grangers' wives can, with the good things of life, handsomely decorated with lovely flowers by their daughters, were arranged in the banquet hall. Members and their invited guests to the number of 100 or so partook of the bountiful repast.

Hon. M. M. Estee made the principal postprandial speech and was heartily applauded by his old-time neighbors and friends.

Suitable arrangements for entertaining the State Grange are rapidly being completed. Napa Grange will assuredly do all possible to make the coming of her expected guests an event long to be gratefully remembered.

R.

Napa, Sept. 4, 1899.

State Grange Secretaryship.

To the Editor:—At a meeting of the Pescadero Grange on the 2d of this month the enclosed resolutions were offered and unimously adopted:

Resolved, That it is the sense of this (Pescadero) Grange that the removal of the office of the State Grange Secretary from San Francisco has been detrimental to the best interests of the Order of Patrons of Husbandry of this State. Therefore be it also

Resolved, That the Worthy Master of this Grange be hereby instructed to present this resolution to the State Grange at its meeting at Napa in October of this year, advocating, if it be possible, the return of office of State Secretary to San Francisco.

La Honda, Sept. 4. M. W.

Black Leg.

In an extended area, where the germs of Black Leg exist, the disease is likely to be very prevalent among young cattle this fall. This is due to the fact that the pastures are in good condition, and the germs will therefore be more virulent, and, as the calves are fat, they will therefore be more susceptible to black leg. Good grass and fine calves, even though accompanied by Black Leg, are better than drought and thin cattle; for a drought causes heavy expense, while Black Leg can be easily and cheaply prevented by vaccination.

The Pasteur Vaccine Company's black leg remedies have been successfully used upon millions of cattle during the last few years, and are well and favorably known throughout the black leg districts of the country, and millions of dollars have been saved by those cattlemen who have been using them. The Pasteur Company's preparations are furnished in the form of a powder, which has to be mixed with water, filtered and then injected; and also in a form which is ready for immediate use. The powder vaccines are supplied to be administered with one application (single vaccine) or in two applications (double vaccine). The vaccine which is ready for immediate use is, for distinction, called "Blacklegine," and is administered in one application. "Blacklegine" is extremely popular, on account of being more economical in its administration and extremely simple. Write for particulars to the Pasteur Vaccine Co., 54 Fifth Ave., or to their agencies at Denver, Colorado, and Fort Worth, Texas.

How to Have Nice, Sweet Vegetables.

The New York *Sun* is instructing its readers in the matter of vegetables.

Its researches are certainly interesting and the findings are as applicable in California as in New York.

No fault can be found with the farmer because sweet corn cannot be found. The only way a man can secure sweet corn is to have his own corn patch. When it is gathered some hours before it is brought to market—as it almost always is—it very soon heats and the milk changes. This can readily be proved by anybody owning a garden. To be really sweet, corn should be cooked as soon as possible after it has been gathered. A chemical change takes place if gathered long, for which there is no help.

No corn is sweet many hours after it is taken from the stalk unless it is husked as soon as picked.

This is for the reason that when the ear is taken from the stalk its source of nourishment is cut off, and then the husk has to draw nourishment from the cob, leaving the corn without nourishment on a dry cob.

If the sweet corn lover doubts this, let him get from the field one dozen or more ears of corn, husking one-half, leaving the balance unhusked until next day, when he will then have such corn as city people always eat.

Another item for all lovers of summer vegetables, such as turnips, beets, carrots, etc.:

When these vegetables are pulled the tops should at once be cut off, for the reason that while the vegetable is in the ground it is receiving nourishment, and when pulled that is cut off, and then the tops draw their life from the vegetable, soon pumping it dry and flavorless.

Peas also should be shelled as soon as picked, as, left long in the pod, they lose all delicate flavor.

To Get the Honey.

To the Editor:—Will some reader of the Pacific Rural Press kindly inform me through your paper how to clarify, or separate, the wax from the syrup of wild honey? In heating it, the wax melted and incorporated with the syrup; even with straining I failed to separate them. A Stupid Sub.

El Dorado.

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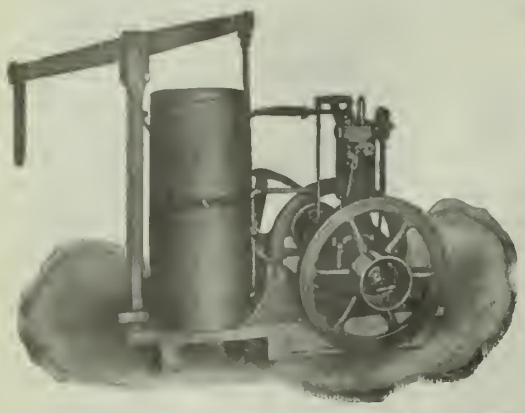
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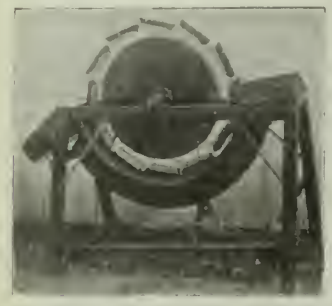
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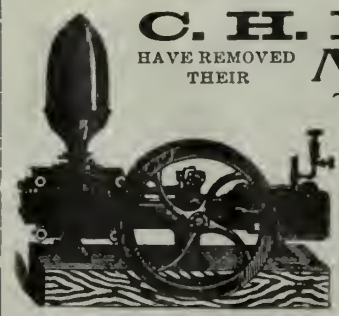
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The Merced Canal and Its Structures.



REGULATOR IN CROCKER-HUFFMAN CANAL IN MERCED COUNTY, CAL.

Some of our irrigation enterprises have been of slow growth and have an interesting history. The Merced—or, as it is usually called, the Crocker-Huffman—canal of Merced county is of this class. It was begun as the Farmers' canal, and Mr. C. E. Grunsky in No. 19 of the "Water Supply" papers of the United States Geological Survey gives an interesting outline of its history. The enterprise was conceived by the late William G. Collier, a surveyor and civil engineer, who had already had some experience in constructing irrigation ditches from Bear creek. An organization of farmers was formed, which incorporated in 1873 under the name of the Farmers' Canal Company, and work on the canal was pushed forward as rapidly as the available means would permit. Unforeseen difficulties, notably due to lack of funds occasioned by excessive cost of excavation, prevented the plans from being fully carried out as originally proposed. However, by March, 1876, the canal reached Canal creek, and water was, through it, made available for irrigation. The length of the canal to this point was about eight miles. For most of the way it had been cut into a hard, gravelly soil, which cost to excavate about 20 cents per cubic yard, instead of 10 cents, as had been estimated. It penetrated a ridge by a tunnel 1600 feet long, 11½ feet wide by 9 feet high, which cost about $20,000. This tunnel is in soft sandstone and firm cemented gravel, and did not require lining. The canal as constructed had a bed width of 20 feet, and was 4 feet deep. It followed, in a southwesterly direction, a grade line having a fall of 1 foot to the mile, except at the tunnel approaches and in the tunnel itself, where the fall was increased to 10 feet to the mile.

The Farmers' Canal Company could not succeed in making arrangements for the extension of the canal beyond Canal creek, and finally sold out to Messrs. Charles Crocker and C. H. Huffman in 1882. The enlargement of the canal was commenced at once. Except one change of location near the head of the canal, the original alignment of the old ditch was all too carefully adhered to. In making the enlargement to a bed width of 60 feet the material handled, including original levees and spoil banks, was fully as great as it would have been on a new route adapted to the increased canal dimensions, and it is questionable whether a complete change of alignment for some of the canal sections would not have been advisable. The tunnel, too, was enlarged to a width of 22 feet, while it might have served for many years without enlargement. The water came to the reservoir in 1883, of which an account will be given in another issue.

The diversion from the river is made at a point where Merced river leaves the base of a vertical cliff which rises to the south. The canal head gate or regulator is constructed between two rock-filled timber piers or bulkheads, of which the southernmost rests against the foot of this cliff. The regulator, of which an engraving is given, has a width of 80 feet, divided into a number of spaces between vertical posts, all of which are controlled by means of vertically sliding gates. From this gate a timber dam, raising the water surface about 8 feet, extends, with a broad downstream sweep, across the river to a connection with the bottom land on the north side of the river. It is shown in another engraving. The dam proper rests on a timber platform or sill, which, extending downstream 10 or 12 feet below the lower face of the dam, forms an apron, on which the overfalling water is received. Considerable trouble has been experienced in repairing cuts which the river has made through the bottom lands around the north end of the dam. The entire cost of the work, including the distributing system at Merced, was about one and a half million dollars.



DAM ACROSS MERCED RIVER FOR CROCKER-HUFFMAN CANAL IN MERCED COUNTY, CAL.

PACIFIC RURAL PRESS.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, September 16, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

State Fair weather of the finest type continues and fair-goers are making full use of it. All reports are of the unusual popularity of the exhibition this year and of the patronage it is receiving. The gate money may not be the highest measure of a fair, but it shows the popularity of the institution at least. This year the receipts for the first week at the park amounted to $5184.25, as against $3227.50 for 1898. The receipts at the pavilion for the first week of the present Fair were $5672.75, as against $1813.85 in 1898. The entire receipts at the park for the two weeks in 1898 amounted to $9187 and the pavilion to $5498.85. The promises made by the management seem to be fully carried out, and their increased efforts to attract public attention this year are certainly being justified.

The local wheat market is still dragging, apparently on the ground of lack of ships and consequent high freights. Futures are weakened in tone by the bear pressure on spot wheat, but options are not quotably lower. The general situation does not warrant reduction. Barley is easy, but not much changed. Buyers are picking up barley in the interior quite actively and a low condition in San Francisco helps them, but it is hard to force it down to any appreciable extent. Hay is unchanged. Receipts are still larger than present use demands, and prevent any improvement. Millstuffs are unchanged. Meats are a trifle less active, but there is no change in values; choice meats are selling about as well as ever. Tallow, pelts and hides are all in good demand. All these goods are scarcer, as might be expected from the general reduction of the herds and flocks by the drouth of the past. Hogs are a little weaker, owing to freer receipts, but are still above packers' figures. Butter is quiet and perhaps a little lower for fresh, owing to free use of packed goods. The same is true of eggs; the recent advance threw the trade upon stored products instead of fresh. Cheese is steady. Dried peaches are moving more freely, and good lots are firm. Prunes have lost a little on medium sizes, with large and small fruit both unchanged. Wool is still waiting for the opening of the new season. Hops are slow; all seems to depend upon what Europe needs from this side. Potatoes are easier, and onions steady. Blackeye beans have dropped sharply; other kinds unchanged. Yellow mustard is held firm, owing to the demand for the East, but white mustard is dull and weak.

The local wheat market seems to be quite out of tune with the general harmony in the course of the great cereal. It is freely reported locally that the strongest bears are buying freely and are apparently crowding all they can to get more wheat for their money, which would indicate that they have plenty of confidence in the situation. Such confidence seems to be justified. The Government report shows that there is no great supply to be counted upon. The great wheat movers have no knowledge of unusual supplies. James J. Hill, president of the Great Northern Railway, was recently quoted in an interview as saying: "We will have a fair average wheat crop. I think the Great Northern and Northern Pacific, between them, have lost about 10,000,000 bushels as compared with last year. The damage from various causes so far has been a little more than usual. In some sections the quality of the crop is poor, and altogether it is considered spotted." This seems to be a fair statement and is backed up by the action of buyers who ought to know most of what they are about. Wheat ought to be good property, from all we can find out about it.

Fruit shipments are going forward in great volume. The total cars for the season bids fair to be from 1,500 to 2,000 in excess of last year, and it will not be much of a surprise to reach 7,000 cars of deciduous fruits this year. Late peaches, pears and plums are still to go and apples and grapes will help out the total notably.

We are glad that San Jose Grange speaks plainly against the current fright of the eastern farmer that he will be ruined by the development of the West. The whole eastern notion arises from a misconception of the facts. There might arise a condition in which unsuspecting eastern people might be mercilessly swindled by boom irrigation schemes in the future as they have freely been in the past, but proper and economical measures to make the central wastes productive will help every portion of the country and every honorable activity to which our people are engaged. It seems sometimes as though some of our honorable and earnest people had stayed in the world just a little too long and to have a little cloud of silurianism over their vision. The West owes it to the general advancement of the nation that such clouds be dispelled and that some of the dear old shoulders have younger heads on them. San Jose Grange is on the right track.

The convention of the State Dairy Association during the State Fair was quite active in its work and compassed the discussion of quite a number of live topics, although the attendance was only a fraction of what could have been reasonably expected. The subject of the Oriental outlet for Pacific coast dairy surpluses was fully exploited by R. A. Pearson of the U. S. Department of Agriculture, who attended as substitute for Major H. E. Alvord, and read a letter from Major Alvord on the same subject. These matters will engage our attention next week, as will some other phases of the convention. Secretary Vanderbilt of the Dairy Bureau explained the inactivity of that organization on the dairy inspection law as due to defects in the law. We note with some satisfaction that the association has chosen for its president Hon. William Johnston of Courtland, who will be a power in the popularization of the Society and its work.

We regard the letter of Frank T. Swett of Martinez, upon another page of this issue, one of the most important and interesting statements in viticultural lines which we have recently published. It presents the resistant root proposition in a very simple and tangible way, and gives conservative advice on vine planting. The fact that the French have taken the American wild vines and so intelligently worked with them to secure varieties with free growth, deep rooting and vigor, in advance of the original wild types, should reflect credit upon French viticulture, and such credit is valuable while the nation is in such disgrace on the Dreyfus matter. California is just in position to profit by the work which the French did to save their own vineyards and the demonstration whereby the PACIFIC RURAL PRESS is enabled to make with Mr. Swett's assistance should command wide attention.

The Colusa *Sun* comments upon our invitation for irrigation photographs, to be used in an exhibit at the Paris Exposition, in this way:

If the "American way of doing things" and "American industrial thought and spirit" had to be illustrated by the way California has butchered the irrigation question, then God help American thought and spirit. The PACIFIC RURAL PRESS wants some pictures of reservoirs, ditches, headgates, etc., all of which can be had in California, but if some European investor in irrigation bonds would ask a question about them what will the exhibitor say? If any one should ask under what law work has been done, what would the answer be? If any one should ask how a hundred men wanting water, where ten objected, could get it, how would the editor answer? Will Mr. Mead, in exhibiting California's wonderful photographic display, tell the people who look with wonder at it that every headgate and dam and reservoir has cost $10 in litigation to $1 expended in works, and that California has no law that any pettifogger cannot drive an automobile straight through—that our courts have decided every question every way?

We do not particularly object to that statement, though the *Sun* seems to intend it as something very severe. We are aware that so far as irrigation laws go California has made the greatest failure of the ages. But what is the matter with showing the Europeans what we have practically accomplished in spite of all these difficulties? We hope to do better in the matter of laws and decisions some day, but meantime what we have done in irrigation will speak for itself, even if the European can only see a photograph of it. Mr. Mead will probably tell the truth about California irrigation law muddles and disasters. We do not know any reason why he should be afraid of it.

The prune growers of Santa Clara valley propose now to proceed forthwith with the prune association, and will hold a general meeting in October. At a meeting last Saturday of the directors, it was determined to push the work of organization with all possible energy. By starting now and getting the association in shipshape, it is believed that no such demoralized condition of the market next year can come. The directors report the most encouraging situation. Many large prune growers through the past few months manifested some indifference towards the objects of the association. They now show a desire to co-operate warmly with it.

Papers and correspondence received at the California Experiment Station from Argentina speak very highly of the results obtained in numerous localities of that country with the Australian salt bush, a small quantity of seed of which was sent to the Ministry of Agriculture from our station in 1896 and 1897. This seed was widely distributed in the more arid portions of the republic, and reports of its growth and productiveness have reached the ministry from numerous points. They are throughout favorable to the value of the plant, both as a rapid grower and abundant producer of a forage that is eagerly eaten by both cattle and sheep, thus utilizing land which otherwise, on account of arid conditions, would yield but uncertain returns, and its introduction is hailed as of great importance to that country. As in the arid region of the United States, there grow in Argentina many native species of salt bushes, seed of one of which has been received at Berkeley; but it is stated that most of these are eaten by stock only when other forage is scarce. The Agricultural Department of Argentina will make a study of these native species with reference to their good qualities and possible preference to *Atriplex semi-baccata*. It seems probable, however, that, as with us, while some of these salt bushes are freely eaten, they may not possess the rapid growth, easy propagation, and the thin stems of the species that has proved so successful in California, and which enable it to be used for green forage and hay making as readily as alfalfa—if ways to cut it as cheaply can be devised. Of the twelve or more kinds in cultivation at the California stations, none can in these respects even remotely compete with the *Atriplex semi-baccata*.

QUERIES AND REPLIES.

Grasses for Dry Hillsides.

To the Editor:—I have some twenty-five or thirty acres of hill land, some of which is pretty good soil, some very poor. I want to sow this in some kind of grass seed that will need no care and that will cure on the ground and make good feed for cows and horses, and at the same time it should be a seed that will not interfere with my vineyard or that can be easily cultivated out should it spread.—Subscriber, Livermore.

To the Editor:—I want a grass which will be a success for grazing purposes on the red foot hill soil, if such has yet been found.—Reader, Paradise, Butte County.

No grass has yet been found hardy enough to maintain life in a root during the summer on our driest interior hillsides. Whether your hillsides belong to this class we cannot tell but probably tend toward it. You can get a good winter growth of Bromus ineemis and if not too closely fed it will seed freely so as to start again from the seed with the first fall rains. If there is such a thing as holding life in the root and starting again from it, this grass will do it. Our seedsmen have this seed or can easily get it.

Beurre Clairgeau.

To the Editor:—At about what date does the Beurre Clairgeau pear become fit for picking?—G. E. Parker, Fruitvale.

The date at Berkeley, which is probably very little later than Fruitvale, is September 20.

The Best Hog.

To the Editor:—Please inform me through the "Queries and Replies" column which is considered the most profitable breed of hogs to raise.—A Subscriber, Salinas City.

Judging by practical tests covering half a century, and with an eye to the doctrine of the survival of the fittest, the best hog for California is either a Poland-China or a Berkshire. They have distanced all other breeds in local trial. Of these two the better is the one which the grower earnestly and enthusiastically prefers, because he will succeed best with what he thoroughly believes in. It is, therefore, more in the man than in the hog as to which is the better of these two, or the best of all.

Growing Nursery Stock.

To the Editor:—Where can I get a treatise on the progeneration of fruits, raising of nursery stock, etc.?—J. C. H., Healdsburg.

"California Fruits and How to Grow Them" is the standard work in this line for California conditions. It is very full on the propagation of all fruits grown here. The printers are now putting the finishing touches on the third edition, of which due announcement will be made very soon.

Plum Aphis, etc.

To the Editor:—Enclosed find some leaves of a prune tree, what is the matter with them and what is the remedy? The trees are two years old and have made a good growth this year.—Reader, Eden Vale.

The chief trouble is the plum aphis which should have been attacked with kerosene emulsion as soon as they appeared. There is some red spider in evidence also. The trees are not attacked until late in the summer consequently they made their normal growth. These pests should be watched for during the latter part of May and onward during the season.

Almond Growing.

To the Editor:—Will you kindly inform me where I can get some reliable treatise on almond culture? The location that I have in mind for the cultivation of almonds is situated in the foothills of Tulare county, where the climate is all right for oranges, etc.—Reader, Elizabeth, New Jersey.

There was a publication a few years ago by the division of pomology of the United States Department of Agriculture at Washington on the general subject of nut growing, which contained very full information concerning California practice both with the almond and walnut. A very small edition was published and we do not know whether a document available or not at the present time. The fullest local publication in book form is to be found in the third edition of "California Fruits, and How to Grow Them," which is about to be published by the Pacific Rural Press. The selection of proper location for the almond is very important, for serious disappointments have resulted from planting trees in frosty places. Proper locations in the foothills of Tulare county ought to be quite satisfactory.

Persian Melons.

To the Editor:—The Persian melons, which I grew from seed distributed by the University, seem to be getting ripe. Some of them part freely from the stem. Should I place them in a cellar or some cool place, or pick them before they part easily? I am afraid they have mixed with other melons, as I had them planted near others.—Grower, Haywards.

We have not had much experience with handling winter melons, but it would be a rational proceeding to take them into a cool place and store them for future use: a place moist enough to prevent shrinking, but, of course, not moist enough to induce molding. Possibly they have mixed with other melons, as you say; but, so far as we have seen, all these winter melons have a squashy appearance; consequently, it will not do to infer they have been mixed. We have had in the past quite full accounts of the Cassaba melon, which is one of the same class. We would like to hear of the newer Persians distributed by the University, and what our readers have learned of their growth, handling and value.

Anaheim Disease and Phylloxera.

To the Editor:—In the issue of Sept. 2nd there is an article entitled "The Anaheim Disease in the Sacramento Valley," in which it is said, in substance, that unless Prof. Pierce discovers a remedy the vines of the State are doomed. Quite a number of my neighbors have had vines die in their vineyards, and, believing it to be phylloxera, have pulled out the dead vines and planted "resistant stock." Is "resistant stock" able to withstand and resist the attack of this California vine disease?—Querist, Los Gatos.

That *is* the question and we do not possess data to answer it. The Anaheim disease has done its work on the vinifera species so far, we believe; whether the root of another species will save the vinifera top which we wish to grow we do not know. There has not been sufficient growth of resistant roots yet to determine this point. We would not borrow trouble in that line, however. If we have good grape land and can do well with grape products, we would put in the resistants—put one enemy to flight and cross the other bridge when we come to it.

The Kelsey Plum.

To the Editor:—Have you any record regarding the length of years of this tree? Does its apparently general early fruitfulness tend to shorten its days?—Morton Hoig, San Gabriel.

The Kelsey has not been here long enough to definitely settle its longevity. The trees planted in Berkeley by John Kelsey, before 1875, are still bearing; but Berkeley is rather a slow place as regards summer heat, and a tree might be expected to take a more moderate course. What is the observation of other growers?

Sulphuring Peaches.

To the Editor:—With a view to the most palatable dried fruit, our associations are using the smallest possible quantity of sulphur—three pounds to the ton green. But is it a fact that in the North relatively more is used, for the important reason that, if kept for some months unsold, the lightly sulpured fruit darkens considerably in color?—Morton Hoig, San Gabriel.

If sulphur enough is used, or the exposure long enough to produce the color demanded by the trade, the color will hold. If the sulphuring is too light, the color will not be gained and darkening will naturally follow. You cannot definitely settle the amount of sulphur by weight—the criterion is the effect secured. The drier must give sulphur enough to reach the price—that is about the extent of our philosophy on the sulphur question.

Longworth Strawberry.

To the Editor:—Please give me some information about the Longworth strawberry; soil required. Does it need much water and will it do well here?—W. Weitekamp, San Diego.

The Longworth is a very old strawberry, which is almost forgotten at the East where it originated. It has reached its best estate in California, and has been most largely grown on the moist lands of Santa Clara valley. We are not aware that it has any special suitability to dry places. The Arizona Everbearing is the best berry for your county, especially if the moisture is uncertain. This variety will keep alive through drouth and neglect, which will kill any other variety we know of.

A Free-Martin.

To the Editor:—Can you give me any information concerning the common belief that one or both of twin calves may be barren? Have there been any experiments with a view to proving this point, and if so can you give me the results?—Reader, San Fernando.

A heifer twinned with a bull is what is called a "free-martin" and will be barren as a rule, although there are instances, now and then, of such a one breeding. This fact is established by the experience of breeders covering many generations. A bull twinned with a heifer is unaffected.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Sept. 11, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature for the week has averaged nearly normal in all sections, although extremely hot weather prevailed for a portion of the time in the interior. Light rain fell at Eureka, a trace at Los Angeles, and quite heavy showers in the mountain districts of southern California. Large quantities of peaches, prunes and other deciduous fruits are on the trays, and conditions have been generally favorable for drying. The first crop of raisins is being gathered and cured; the fruit is of good quality, but the yield will fall below the average in most vineyards. Large crops of apples and pears, of good size and quality, are being gathered in the Sacramento valley. Olives, lemons and oranges are making fair growth, but require warmer weather for full development. The grain and hay crops are mostly stored in warehouses and stacks. Hop picking and baling continue; there is a heavy crop in the coast and bay section. It is reported that fruit and vegetables were somewhat injured by frost in portions of Tehama county. Irrigation water is low in portions of the San Joaquin valley and southern California.

Sacramento Valley.

Warmer weather has been beneficial to all fruits, and especially favorable for drying. Large quantities of peaches and prunes are being dried; the quality is excellent. Apples and pears of fine size and flavor are being gathered; the yield is somewhat better than the average. Raisin and wine grapes are maturing rapidly; they are generally of good quality, and the yield will be heavy. Oranges and olives are in good condition, and promise a large crop.

It is reported that garden produce and fruits were injured by frost in portions of Tehama county.

Almonds are nearly all gathered; they are of good quality and the crop is heavy.

Coast and Bay Sections.

Pears of fine quality are being shipped. Prunes are of good size and quality, and the yield is fair. Grapes are maturing favorably. Fruit drying is progressing. Fall apples are being gathered; the crop is very heavy. Threshing continues in some sections, and the yield of wheat, oats and barley is very good. Hay baling is nearly completed. Hop picking continues; the yield is said to be very good.

San Joaquin Valley.

Grape picking and curing are progressing favorably. The quality of raisin grapes is said to be superior to that of last season, but the first crop is very light. Wine grapes are coming to market quite freely. In some sections raisin grapes will be used for wine. Conditions have been favorable for fruit drying. There is a good crop of figs. The large hay crops are still being held in warehouses and stacks. The third crop of alfalfa is very good. Potatoes are of fine quality, but the yield is not heavy. There is a light crop of almonds, due to late spring frosts. Pasturage is becoming short in some localities. Water in irrigation ditches is low.

Southern California.

Conditions have been generally favorable for fruit drying and there are large quantities of peaches and prunes on the trays. Grapes are maturing and being sent to wineries in considerable quantities. Oranges and lemons are thrifty and there are indications of good crops. A few weeks of hot weather would be beneficial. The latter part of the week was foggy and corn, pumpkins and melons were benefited. Walnuts are ripening rapidly; the yield will be good. There will be fair crops of celery and tomatoes. Irrigating streams are low. Heavy showers are reported in the mountain districts.

Eureka Summary.—Threshing grain and prune drying were somewhat interrupted by rain, but no material damage was reported. Corn, potatoes and pasturage were improved.

Los Angeles Summary.—The warm weather which prevailed at the close of the last report moderated materially during the past week, which closed much cooler, with considerable cloudiness, fog and local thunder showers Friday night and Saturday. The rain was beneficial to summer crops, but probably injured some hay and grain lying in the fields. Peach drying is about finished, except on late varieties. Prune curing and raisin making have begun, though the latter will not be in full operation for a week. The bean harvest continues. Walnut hulls are beginning to crack and the nuts will soon drop.—G. E. Franklin.

The following data for the week ending 5 A. M. Wednesday, September 13, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka	.00	1.15	.06	7.35	64	50
Red Bluff	.00	.02	.16	3.71	106	62
Sacramento	.00	.02	.00	1.40	98	56
San Francisco	.00	T	T	.18	70	52
Fresno	.00	.00	.00	.15	102	58
Independence	.07	T	.11	.02	90	58
San Luis Obispo	.00	.00	.00	.30	80	50
Los Angeles	T	.02	.11	.10	86	60
San Diego	.00	.06	.07	.08	72	62
Yuma	.00	T	.18	.59	110	66

THE VINEYARD.

Suggestions to Vine Planters.

To the Editor:—Could you tell me the cost of planting and taking care of a vineyard of twenty-five acres for two years, including the cuttings?

Would you plant resistant or non-resistant stock? Could you advise me as to the kind of grape most profitable?

The land is on the north side of the hills, inclines toward the valley, and is exposed to the sun all day. The soil is part gravel and part loamy. Subscriber.

Concord, Contra Costa county.

To the Editor:—In answering, at your request, the questions of Subscriber, Contra Costa county, I will state that the would-be planter of a vineyard ought to ask, not the cost of planting and care of a vineyard for the first two years, but for the first four years. While occasionally vineyards do bear a few grapes the third year, they are usually so scattering that the cost of picking and handling will amount to nearly as much as they sell for. A small crop should be expected the fourth year, but in all probability it will not more than pay the expenses of care and cultivation. The fifth year a good crop ought to be produced, and from that time on, if the vineyard produces over three tons to the acre and grapes sell at the nearest shipping point at $10 per ton or over, there should be a fair margin of profit. There are strips of land near Concord that are unusually rich and well situated, as well as skillfully cared for, that produce probably an average of six or seven tons to the acre, but this yield is the exception and not the rule. There are a good many acres in the same district that do not produce an average of over three tons to the acre. After a vineyard is established the annual cost of cultivation, taxes, pruning, etc., not including picking and delivering the crop, will be somewhere between $15 and $25 an acre, according to circumstances and variety. Subscriber will readily see that unless grapes sell for more than $10 per ton, or unless her soil is so good that it will yield over three tons to the acre, that the twenty-five acres would be better unplanted. Land must be good to make a vineyard pay.

It has cost us about $85 per acre to plant non-resistant vines and to bring them to the end of the fourth year, properly staked and trained. It will probably cost "Subscriber" at least as much. There are places where the soil is sandy, where cuttings can be put in with a crowbar, where cultivation suffices without plowing, and where the vines make so little growth that pruning and picking brush and staking cost but little; but, assuming that "Subscriber" has a good, strong soil, that, like most of our Contra Costa soils, needs careful and frequent tillage, I think it would take good management to bring it within that figure.

Will it Pay to Plant Non-resistant Vines?—In my opinion planting vinifera (non-resistant) varieties in a phylloxera-infested district is the rashest gamble that can be found. Phylloxera is well scattered over Contra Costa county. It is killing twenty or thirty acres a year in Alhambra valley; it is in the neighborhood of Concord, and it is said to be at Clayton. Even should "Subscriber" get three or four remunerative crops before phylloxera kills her vines—say eight years from now—the venture as a whole would probably not be a paying one. There are districts remote from phylloxera, as far as is known to-day, where it might possibly pay to plant non-resistants, but in a place where the pest—a winged one at that—is on three sides of the prospective vineyard, and within two or three miles, it would be a rash venture of good money.

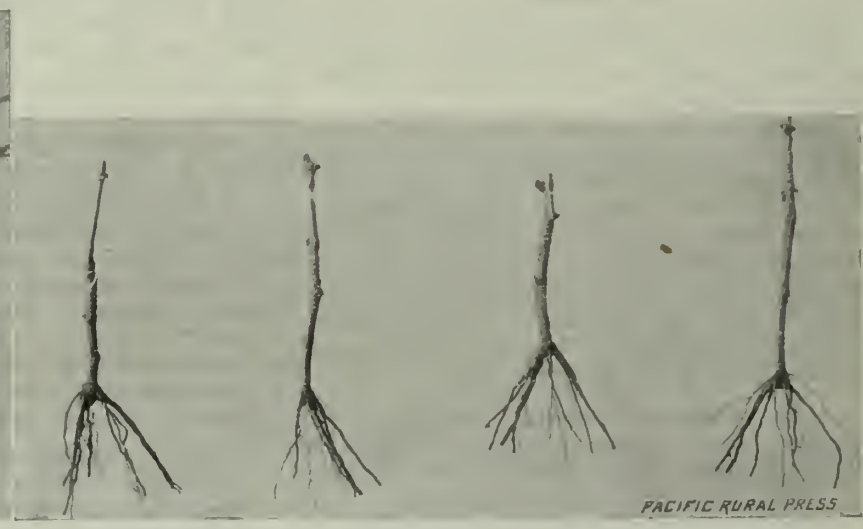
Planting With Resistants.—Here is a problem not so easy as it may look to an outsider. It is still in the experimental stage in California. Not that there is any doubt that there are plenty of varieties that will resist phylloxera, but that each vineyardist can so select the proper variety for his soil and so handle his grafting and culture as to avoid unnecessary losses.

The cheapest way at present would probably be for "Subscriber" to plant Lenoir and graft them at the age of two, three or four years. If the cuttings rooted well, and the grafting should be fairly successful, it would probably cost between $100 and $125 at the end of the fourth year. Then comes the problem: How long will Lenoir resist on this particular soil? It is not thoroughly resistant, as all authorities agree. There are instances where Lenoir have been killed by phylloxera, plus poor soil and drought, in three years after planting. However, there are thousands of acres of Lenoir (or Jacquez, as the French call it) being pulled up each year in France. In the vicinity of St. Helena there are hundreds of acres of Lenoir eight and ten years old, and apparently doing well on the richer soils, but on poorer hillsides I noticed in 1898 that the growth, in spite of 17 inches of rain, was pretty short. We have three acres of young Lenoir, planted on virgin hillside soil, and we are wondering how long they are going to last after the phylloxera gets well into them.

Riparia.—But there are other resistants that are thoroughly resistant, practically speaking. Riparia and Rupestris have stood thirty years phylloxera in France, and are thrifty to-day, and that is long enough to satisfy me or most anyone else. But it has been found that most parts of California are too hot and dry for Riparia varieties to be perfectly safe. Hundreds of acres grafted on this stock died out a few years ago around St. Helena. Nobody knows just why, and some people think it was a "mysterious disease," but if "Subscriber" will examine the accompanying photo-engraving of three-year-old Riparia vines, grown on good alluvial soil, free from hardpan, a possible explanation may be seen. The roots, instead of plunging deep into Mother Earth to seek moisture, run parallel to the surface, as if they despaired of finding any moisture at all. The home of the Riparia is the banks of Eastern rivers, where there is always abundant supply of water, and the Riparia roots have never learned how to go to mining for water, as other varieties, that grow high on hillsides and on dry gravel banks, have been forced to learn.



ROOT GROWTH OF RIPARIA—THREE YEARS FROM CUTTING.



ROOT GROWTH OF RUPESTRIS ST. GEORGE—EIGHT MONTHS FROM CUTTING.

Rupestris.—After watching the growth of over twenty varieties of resistant vines on our place at Martinez, we have decided to use the Rupestris St. George and the Rupestris Martin as grafting stocks. Their high power of resistance, their immense vigor, and above all, their powerful root system, striking deep into the ground, are the qualities that make them the most promising. The other photo-engraving shows some rooted vines of Rupestris St. George eight months after the cutting was planted. They grew at a distance of 10 feet from the Riparias shown in the first engraving, and at eight months were about as big as the Riparias were at thirty-two months. Note how the roots, which have been clipped, ready for planting, plunge deep in the direction of permanent moisture. Last week I started to dig up a Rupestris from the nursery. It was a small cutting last May, when it was grafted and planted. I dug until I was tired, and then quit. There were the rootlets, at a depth of 5 feet, still going downward. I have no fear that those vines are going to suffer from any ordinary drought! Sixty inches in 100 days is fast penetration.

The Rupestris Martin also promises well with us. Our grafts on this stock have made a larger growth than even on Rupestris St. George. The diameter of the stock, however, is not quite as great. We are satisfied with both varieties, and it will take years to determine which is best. The Rupestris Martin is said to thrive in soils that are almost too dry for the St. George. It is the most successful stock on the dry soils of the island of Madeira. It is higher in the scale of resistance than Rupestris St. George. Professor Prosper Gervais, an eminent French authority, says: "The Rupestris Martin, while presenting some difficulties in grafting, supports grafts whose vigor and fructification increase with age. In the schists, in the silurian soils of Maine-et-Loire, in clay soils, relatively compact but not impregnated with stagnant water, and in stony, dry soils, it is a marvelous stock. It is above all a stock for dry soils. M. Salas y Amas has pointed out that in the south of Spain, in the very hot, dry climate of Malaga, the Rupestris Martin is one of the stocks most resistant to drouth, even more so than the Rupestris St. George. It is the same on the Mediterranean coast of France, where the dryness of the summers is often excessive; for instance, at Montagnac, l'Ardeche, Bouches de Rhone and Var."

I should recommend these varieties as stocks for the vicinity of Concord, at least upon the slopes.

Cutting-Grafting.—But I would not advise "Subscriber" to plant out twenty-five acres of these vines and then experiment with grafting them in place. They have the bad habit, if grafted when old, of suckering badly, so much so as to render grafting them in the field, as far as I have been able to learn, a very expensive and uncertain operation. Cutting-grafting, which is simply grafting the cutting before it is rooted, is the method we are following in our planting as being the surest, the quickest and the best means of establishing a vineyard in which all the vines will be productive. There are many reasons too numerous to mention why this method is, in our opinion, the best, and if "Subscriber" will come and look at the 10,000 cutting-grafts we made last year, she will see the merits of the system. The Bulletin of the State University, which may be had upon application, contains a full and careful description of this method.

Best Varieties.—In regard to the last question, "The most profitable grape," this is the proposition we are all puzzling over. In a general way, a variety, to be profitable, must make wine of good quality; must, above all, be a heavy and regular bearer, and must be hardy enough to stand some rain without rotting. Red wine grapes are in better demand as a rule than white wine grapes, and are more easily handled. Mataro, Carignan, and Mondeuse, are the varieties we would plant to sell to wineries. Zinfandel, while productive, is an irregular bearer, and is subject to coulure, to sunburn, and to rot after fall rains, so we do not consider it as good as the varieties mentioned.

The planting of table grapes is a somewhat precarious proposition. While a few growers have been making good profits the last two years, others have lost heavily. It must be remembered that our markets are several thousands of miles away; that transportation and refrigeration companies make it their business, in these days of "combinations," to corral the bulk of the profits; that the growing, packing and selling of table grapes requires experience and some degree of skill, if the grower would avoid "red ink returns"; and lastly, that the growth of our very heavy-growing varieties on resistant stock has not been tested to any extent, either in France or in California.

If "Subscriber" has never planted a vineyard before I would strongly advise her not to plant over five acres a year. Then she can get her experience, which is a great teacher, as she goes along, and it will cost a great many hundred dollars less.

Frank T. Swett.

Hill Girt Vineyard, Martinez, Cal.

FLORIST AND GARDENER.

The California Lady of the Daffodils.

We always haste to give our readers the facts of what California women are accomplishing in open-air arts, because the results are so unique and inspiring.

Mabel Clare Craft, one of our most faithful and brilliant young newspaper women, has prepared for the *Chronicle* an appreciative sketch of one of our California horticulturists, which is a happy combination of sentiment and cultural wisdom, and will be read with deep interest.

The Lady Herself.—The Lady of the Daffodils lives in Haywards. Her father is a painter and she sang in opera, and now the artistic feeling that first manifested itself in color and then in sound comes out in form and fragrance, and everyone who buys an early daffodil in San Francisco and breathes its faintly perfumed breath may fancy that he has received in another form the sweetness of Ivy Wandesford's songs—for Mrs. Ivy Wandesford Kersey is the Lady of the Daffodils.

She grows them by the ton, this woman with the slender hands. She counts them by the hundred thousand, this lady whose flutelike voice was sweet enough to be heard before and after Camilla Urso's magic violin. She sorts them with fingers that contain a supplementary sense, throwing the perfect ones of proper size to one side and the defective ones of unsymmetrical development to another, like the sheep and the goats in the biblical prophecy—only Mrs. Kersey is very tender with the goats. Them she plants again in the soft brown velvet of the sloping hillside and gives them another chance to grow into strength and beauty, and after a twelvemonth these bulbs that were weighed in her fingers and found wanting are full and globe-shaped and fit to send East to blossom in green and gold.

The Daffodils.—Eight years ago Mrs. Kersey, who lives with her parents on a charming tree-growing place in Haywards, found that her daffodils were the best and the earliest in all the countryside. It was accidental, this discovery. There was, behind her house, up the path where the grapevine and the white fig from the Azores grow, a hillside whose gentle slope stretched in a peculiarly inviting way to the sun. This was the place where the daffodils grew. Something in the golden hearts of the daffodils appealed to the singer, who straightway bought the bulb-lore of the Dutch and began to study. For eight years, with unwearied application, she devoted herself to books on bulbs, until she mastered the daffodil branch, so difficult and complicated a thing is the growing of lilies—those lilies of the field, which, of all the flowers, seem to grow most by themselves, without human interference, with no cutting or pruning or transplanting. On the nourishment and care of bulbs an entire literature has been built, and Mrs. Kersey, with the painstaking zeal of the specialist, has confined herself to one branch, hence her success. She admits that she is only an amateur in the matter of tulips, of hyacinths, but on daffodils she is an authority. She reminds her friends of that eminent German specialist who devoted his life to a critical study of the declension of nouns, and who, on his deathbed, said that his one regret was that he had not confined himself to the dative case. This is specialization with a vengeance.

Mrs. Kersey is only just beginning to see beyond the rim of her daffodil beds. She has begun the cultivation of the yellow Spanish iris and of the large and interesting narcissus family; but the children of narcissus are banished from the carefully fenced precincts where the daffodils grow, and the best they can do in the spring is to peep between the pickets at the sheets of yellow, where thousands of favored daffodils are carefully sheltered from all the ills that may befall.

Where They Grow.—The daffodil garden, as I said before, is on a sloping brown hillside. Just now part of the hill is resting under a coverlet of brown weeds. Under the weeds sleep thousands of daffodils, each parent bulb surrounded by its young family. With the fall rains all these bulbs will wake up, and by January the whole hillside will be like the field of the cloth of gold. The fragrance of the place may be inhaled for a mile, and people passing on the road—unromantic people hurrying to market—vaguely turn their faces toward the house that plays hide-and-seek in the trees and wonder what the breath of spring means in the winter time.

The Varieties.—The daffodil garden is divided into sections by pear trees, just now full of fruit. Instead of impoverishing the soil they seem to improve it, and the rows of trees serve to separate varieties, the Ard Righ (Irish King) from the Golden Spur, the Maximus from the Obvallaris, the Obvallaris from Johnston's Queen of Spain. This year two new varieties are to be added—the Empress and the Barii Conspicuous. Many of these names are not beautiful, because they simply embalm the vanity of botanists, who saddle lovely flowers with their own unlovely cognomens. It seems strange that a man can stop to think of himself in the presence of a daffodil. But of all the varieties the one by which Mrs. Kersey sets most store and the one which is likely to bring her most fame is the Ard Righ, which, being translated, means the Irish King. This beautiful variety has a trumpet and perianth, both of the most translucent and exquisite yellow. The perianth has five petals, faintly curled and fluted, and the perfect trumpet never breaks. In its heart the Irish King is like a sunset, something between primrose and saffron, the sort of color that makes your heart ache unless God cursed you with color blindness.

The interesting fact about the Irish King which, like the rainbow, seems to have a pot of gold at its root, is that the variety is almost extinct in Europe and much prized by flower growers. Bulbs of it are treasured in greenhouses which are virtually flower museums, yet in Haywards there are tens of thousands of these bulbs, each one carrying a body within like an onion, wrapped in loose sheathings of crisp and paper-like fiber, a soul which blossoms in a flower like a sunrise, girt about with green and spiky leaves. There are enough of these bulbs in Mrs. Kersey's garden to restock Europe and to star the turf of the Continent with as lovely a flower as ever grew.

Importance of Shade.—But the pear trees with the varnished leaves have something more to do than to act as rows of gendarmes separating one handsome flower family from its envious neighbor. Sometimes in the spring there comes a week of sudden sunshine, hot, penetrating, and under the searching rays the daffodils shrink and the beautiful petals of beaten gold are transformed into a mummy's dry and crackling skin. The daffodils, shade-loving and moisture-craving, shrink into themselves, and all the beautiful cups go brown. The daffodil is literally cooked on its juicy and pipelike stem. Against this untimely heat Mrs. Kersey guards her springtime flowers. The friendly and protecting arms of the pear trees, bare of leaves at that season, are utilized as tent poles, and from them bolts of cheesecloth are spread over the field of the cloth of gold to protect it from a sun which must envy its beautiful color and seek to draw it to himself.

The Daffodil Trade.—From three to five weeks before anybody else's daffodil buds are ready to burst their slender, boatlike shells, Mrs. Kersey's flowers are showing a faint line of yellow against the green, and therein lies her success. It is the early flower that catches the market. In time for the Christmas trade her daffodils are in the shops, and their golden tissue shines at many a Christmas dinner and lights the dark corners in many a wintry room. When clouds hang low and skies are glowering, her daffodils shed a radiance which seems like the sun himself. For at least a month Mrs. Kersey has almost a monopoly of the market. Five of the leading city florists are supplied by her, and their clamor is ever for more, more. Prices are good, and the little buds cannot come out fast enough to suit the demand. Even the daffodils forced under glass do not blossom as quickly or as freely as these open-air flowers on the warm hillsides, which they find so congenial. Suddenly the floodgates are opened. Everybody else's bulbs start a-blooming and the market is flooded. Prices go down, the flower boys hawk daffodils on the street and the golden age of the daffodil is over. But nature planned a monopoly for Mrs. Kersey, and when daffodils are sold at a cent apiece she no longer bothers about cut flowers, but devotes herself to her bulbs, which is the main business of the year. The last three years have been hard on daffodils. The ground has been parched and dry, as only the flower lovers and flower growers appreciate. It seems sometimes as though the flowers wept at night for lack of moisture, and there are flower lovers who have seen tears on the calyx in the morning. A great wheezy windmill labors all day and night for the Kersey daffodils, but even this willing monster cannot supply the lack of rain. The sun draws up the moisture from the earth, and when the rain has sunk deep the eager roots and pearl-like feeders from the bulbs drink in the sweet water, but when the watering is from the surface the sun merely sucks the moisture higher still, leaving the poor roots parched and thirsty.

Treatment of the Bulbs.—Just now the mistress of the daffodils is sorting her bulbs and packing them in her little bulbhouse for the Eastern trade. She has many orders from the East, and they find it cheaper there to buy new bulbs than to plant the old bulbs after forcing. A daffodil bulb, like everything else that has been forced, must rest sometimes, and the Eastern growers find that it takes years for the life and health to come back to the exhausted bulbs which have been hurried into early blooming by their persuasive furnaces and glass roofs. That is why thousands of California bulbs are hurrying East now and why the Haywards hillsides seem destined to supply the daffodils for the United States. To show the difference between the conditions east of the Rockies and the condition in the daffodil Eden, Mrs. Kersey rarely takes her bulbs up oftener than every four years, and at most every three. She plans her garden like the constitution of the United States Senate, so that a section of bulbs comes up every year, while others are holdovers. There are always old daffodils, like old Senators, to teach the young bulbs how to grow. The offshoots from Mrs. Kersey's stock bloom every second year, thus catching up to their parents in two years, while in the State of Washington, which has been deemed very favorable to daffodil culture, the offshoots bloom every four years, thus requiring twice as long to mature. In Haywards the conditions seem to be as favorable as in moist, shady Holland, and Holland is the heaven where all the good bulbs go. The chatelaine of the daffodils is exceedingly careful of the diet of her pets, for daffodils must be fed like anything else. They are exceedingly light eaters, with dainty appetites. Manures are for heavy feeders, and daffodils will not grow in manured grounds until some grosser flower has been put in to take the superabundant nourishment from the soil.

The Gophers.—Between the gophers and Mrs. Kersey a bitter war wages. A gopher has a sweet tooth in comparison with which the taste of a sixteen-year-old girl in boarding school is not to be mentioned. The succulent bulbs of the daffodil make toothsome eating, and in a trice there vanishes the perennial promise of golden flower and green leaf. Mrs. Kersey's army to fight the gophers consists of her white rat terrier, Bonnie, and no crusader was ever more zealous than he. He spends most of his waking hours among the daffodils and he keeps an especially sharp eye on the iris beds, for Mrs. Kersey grows the yellow Spanish iris and the blue variety as well, the flowers that have been so beautifully called the poor man's orchid. The gophers have almost succeeded in exterminating the blue iris, for which they have a special preference, and poor Bonnie's work is never done. As fast as he exterminates one army of gophers another sweeps down from the distant hills. Bonnie grows old, but the millions of gophers are always young. They are like the barbarians or those Assyrians who swept down like a wolf on the fold, and when they have passed there is weeping and wailing in the flower beds, and poor Bonnie, fatigued from the fight and surrounded by the dead bodies of his and his mistress' enemies, sometimes wonders if it pays.

Distinguished Guests.—Not long ago two very eminent Englishmen visited San Francisco. They were not written up in the personal columns, for the importance of their mission does not appeal to the proletariat. The gentlemen were Messrs. Bahr and Burbage, and they are the greatest living authorities on daffodils. They had been in Spain hunting for the wild daffodils which grow in the Pyrenees, and they were much interested in the facilities which California offers to daffodil culture. They predicted that this State would one day compete with Holland as the bulb producer of the world, the home of more beauty and concentrated fragrance than any other spot on earth.

HORTICULTURE.

Walnuts at the North.

So many are interested in growing the English walnut in the northerly regions of California and in Oregon that new details are important. Thomas M. Rogers, of Milwaukie, Oregon, recently gave his experience and observation to the *Oregonian*, and it involves the standing of the nut in the Willamette valley:

Wood if Not Nuts.—The raising of walnuts, and in fact of walnut wood, has considerably interested me for a number of years. Though I have not really done much or found out a great deal concerning the subject that may be considered of great value, yet I deem it a privilege to be able to give to your readers what has come under my notice, with reference to the raising of walnuts in Oregon. To say that English walnuts will grow in Oregon is not putting it very strong. I know of a few quite large trees that have been bearing fruit for about twenty-five years, in Portland, but the amount of fruit has never been enough to justify the raising of the trees for their fruit, though the fruit raised has been of excellent quality, well matured and thin-shelled.

The fact is the variety of English walnuts introduced here at first was not the prolific kind, and another serious fault of the variety mentioned is that the sap runs too early in spring. This causes too early budding out of blossoms and leaves, which are killed by late frost. They also continue growing too late in fall, and early frosts kill the young tips of unmatured wood and buds. These features are part evidence at least that the above variety may have come from some southern, mild climate, and is not suitable to our Willamette valley conditions, which are not regular.

Tree Killing.—Here in Milwaukie this year a very large English walnut tree that has been bearing fruit for upward of twenty-five years, and measures about 16 inches diameter at the trunk, with branches very widespread and quite tall, has been killed by the late very cold spells in February and March, because of the tendency of this variety to bud out very early under the conditions of the weather experienced here in January last.

I consider it quite remarkable to find so large a tree completely dead, after so many years of vigor and growth. It was planted and owned by the late Seth Lewelling, so well known as an orchardist. I have grown some trees of the same variety, and find they are subject to the same conditions and tendencies.

I find that the black walnuts that are growing here have a more proper disposition, suitable to this climate. This season they have waited until this month to bud out and blossom, and give promise of

bearing more fruit than ever before. I feel safe in recommending the planting of this species of walnut both for fruit and wood.

Varieties.—A variety of walnut for shade tree and for fruiting, which I can surely recommend, is the native California walnut (*Juglans Californica*). The tree is a rapid grower, with medium size, and of good flavor, hard shell, very similar to hickory nuts. The tree attains the height of from 60 to 75 feet, with trunk of 2 or 3 feet in diameter; is very graceful in appearance, and I find it especially adapted to our climate, for it is just budding out and blossoming this month. This magnificent variety can be easily obtained. The wood, however, is not equal to the famous black walnut of the East Indies (*Juglans Nigra*), of which I made mention above.

Of all the various varieties of walnuts that are worthy of our attention, the French varieties are the most valuable; famous among which are the following: Franquette, Mayette, Parisienne, Lerotina, Chaberte and Prœparturiens (fertile). All the varieties are very prolific and have the sure habit of budding out late in spring (May or June), and so escape our late frosts. I believe the planting of the above varieties in suitable soils and localities would prove a good investment.

The Walnut.

By J. B. NEFF at the University Farmers' Institute at Anaheim, September 11, 1899.

There are three species of walnuts that are of commercial importance in the United States—the black walnut, the butternut or white walnut, and the Persian, commonly called the English, walnut. The last named is the only one of any importance in California, and probably originated in Persia or Asia Minor. From there it spread westward to Rome, and was distributed throughout continental Europe. The walnut was known to the Greeks as the "Persian" nut, or the "Royal" nut, and to the Romans as "Jupiter's Acorn," or the "Nut of the Gods," showing that it has always been held in high esteem. Until the introduction of black walnut wood very high prices were paid for Persian walnut wood for such articles as gunstocks and furniture. There are no records to show when walnuts were first planted in California, but they have no doubt been grown in a small way since the first missions were established.

The range of profitable cultivation of walnuts extends over a comparatively small area, so that there but little danger of overproduction; and it is scarcely likely that enough walnuts can be produced in California to supply the demand of the United States.

There has been but little trouble to find a market for all the walnuts that have been grown in California, and, with proper methods of marketing and distribution, good prices ought to be realized for all that will be grown that are of good quality.

The poor grade walnuts are used in France for oil making, 100 pounds of walnuts producing about eighteen pounds of oil, which is used largely in place of olive oil.

Growing.—Walnuts should be planted on land having at least 6 feet of good soil, not underlaid by hardpan, and where the water does not stand on the surface. There must also be water for irrigation, as walnuts need water at least twice during the summer, and three times will be better.

The trees should not be less than 45 feet apart, and 50 feet apart is better on soil that will make trees grow vigorously. If planted in this way peaches or apricots may be grown between the walnut trees, but such trees should be planted so as to have only the same number of peach or apricot as there are of walnut trees, and all equidistant. Both varieties can usually be grown together ten years, when the walnuts will need all the room, and the others have to be taken out.

In planting walnuts only the very best variety and the strongest trees should be planted, and in order to have the best, as well as a uniform variety, grafted walnuts should be planted. In selecting grafted trees for planting it is not necessary that the tallest trees be taken as it is preferable to have good roots and a stocky stem. Trees with good roots and strong, one-year-old grafts will do much better than older trees that have goown too closely in nursery rows.

Pruning.—Walnut trees no not require the heavy pruning that is needed by most of the deciduous fruit trees. The lower limbs should start at 4 or 5 feet from the ground, and in such a way as to have the heavy side of the tree to the southwest. A good rule for pruning is to cut off only those limbs in the way of the team when cultivating, or that will tend to draw the tree too much toward the northeast or away from the prevailing winds. The young trees should be supported by stakes for the first two or three years.

A walnut orchard that has been well cared for will begin to bear paying crops after the fifth year from planting, and will increase its yield for many years. Walnut trees will live to a very old age in suitable localities. Trees in Spain and in the south of France that are believed to be over 300 years old bear regular crops of 400 to 500 pounds of nuts.

Diseases.—Walnut trees are more free from pests than most orchard trees. The roots are sometimes affected by "root knots," which should be removed when on the main stem of the tree, or on the root crown, and the affected part dampened either with Bordeaux mixture or with a weak solution of sulphate of copper, this will usually prevent a return of the disease. The only other disease has been that known as "walnut bacteriosis," which has caused considerable alarm and which is not fully understood yet. This disease affects only the young wood and the growing nuts before the shells are hard.

Prof. Pierce, who is making a study of this disease under the direction of the Agricultural Department, says there is no danger of the trees being killed outright, but that with warm, damp weather during the early summer the growing crop might be badly damaged. This, however, is scarcely probable in our climate, which is noted for its dryness.

Considerable damage was done in some localities last year by an aphis on the leaves and young growth, but it is to be hoped that it was only the development of an abnormally dry year and the excessive heat.

There is also a scale known as the "walnut scale," but this does no particular damage, as it infests the large limbs principally.

THE POULTRY YARD.

Experiments With Poultry Feeding.

The effort to determine the practical effects of different rations upon fowls has occupied a part of the time of the West Virginia Experiment Station for the last two years, and the results are striklng confirmatory of the claim of advantage in a meat factor in the food. The fowls were divided into six pens, and half of the pens were fed a carbonaceous diet the other half a nitrogenous diet. The writer of the bulletin then applies these adjectives descriptive of the food to the fowls themselves and distinguishes them as follows:

Both the nitrogenous and carbonaceous fowls were fed each morning a ration of ground feed, mixed either with boiled potatoes or steamed clover hay. The grain mixture for the nitrogenous lot consisted of brown middlings, oil meal, ground oats and corn meal, in varying proportions; while for the carbonaceous lot, corn meal was the principal material. At noon the nitrogenous fowls received a ration of ground fresh meat and bone, which was fed daily at the rate of from five to eight pounds per hundred fowls. At night both lots of fowls were fed all the whole grain that they would eat up clean, consisting of corn, oats and wheat screenings, the corn predominating for the carbonaceous lot.

Results in Weight.—At the beginning of the experiment the three pens of nitrogenous fowls weighed 1344 pounds, and at the end of the seventh period, 1698 pounds. They consequently gained in weight 354 pounds, while the carbonaceous fowls gained only 34 pounds. The fowls fed the nitrogenous ration increased, then, in weight more than ten times as much as the corn-fed lot.

Result in Eggs.—During the seven months the three pens of nitrogenous-fed fowls (calculated for 100 fowls in each pen) laid 17,459 eggs, and the three carbonaceous-fed pens 9708 eggs, consequently the nitrogenous fowls not only gained much more in weight than the others, but they laid nearly twice as many eggs.

In the second year's trial the two pens of nitrogenous fowls laid 7555 eggs and the carbonaceous fowls 3431, or less than half as many.

The Profit.—The nitrogenous fowls gave more than four times as much net profit, and although they gained much more in weight, yet they laid more eggs than the hens fed the carbonaceous rations. The total value of the eggs laid by the nitrogenous fowls was $194.84, and by the carbonaceous fowls $119.06.

The Effect of the Food Upon the Hatching of the Eggs.—Great care was exercised to have all of the conditions the same when hatching the nitrogenous and carbonaceous eggs. Among the carbonaceous eggs the per cent of infertility was more than twice as great, and the fertile eggs themselves did not hatch nearly so well as the fertile nitrogenous ones. It was observed, too, that the nitrogenous eggs hatched from six to twelve hours quicker than the carbonaceous eggs in the same incubator. The nitrogenous chicks also were stronger and more vigorous than the carbonaceous ones.

After the feeding experiment had been conducted for some time, it was observed that the carbonaceous eggs were noticeably smaller than the others, and at the end of the fourth period, several dozen eggs from each lot of fowls were carefully weighed, and it was found that 100 of the nitrogenous eggs weighed about one pound more than the same number of carbonaceous.

Conclusion.—Although the nitrogenous ration cost slightly more money, yet it was more profitable because more eggs were laid and the fowls gained more in weight. The eggs from the nitrogenous-fed fowls were larger, more fertile, and hatched better and produced far more vigorous chicks than those laid by hens fed the carbonaceous ration. Both lots of fowls remained in a healthy, vigorous condition during the entire test.

THE VETERINARIAN.

Anthrax in Fresno County.

In his report for August to the supervisors, County Veterinarian Graham of Fresno gave his account of procedure with anthrax.

How the Disease Was Treated.—I made three visits to Wildflower and Liberty, as a disease broke out among cattle known as anthrax, and forty-one head of cattle, fifty head of hogs and three head of horses died from its effects in several places. Jos. Roscona had a cow that died from the disease. He cut her up and fed her to his hogs. Thirty of them died. He took the disease in his own eye and the side of his head swelled badly. He had to go to the hospital. I sent for Dr. Blemer, the State Veterinarian, and he ordered all places where stock is affected with anthrax to be quarantined, which has been done.

An Account of Anthrax.—Owing to the appearance of anthrax in some parts of the county, Dr. Graham has appended to his report the following account of the disease:

"On account of the rapidity with which it develops and runs its course, the variety of animals subject to it, including man, and its fatality, anthrax or charbon is one of the most dreaded diseases to which animals are subject. Nearly all domestic animals are attacked, including sheep, cattle, horses, mules, swine, cats and dogs. Swine were once thought to be immune, but we now know them to be very susceptible and readily succumb. The animals usually become infected by the bacilli and spores gaining entrance into the alimentary canal tract, and in some cases man becomes infected in the same way by eating improperly cooked meat; but usually the cases of anthrax in human beings are due to the breathing of spore-laden air, when working over wool or hides from diseased animals and the infection of cuts, scratches, etc.

"The spores are very tenacious of life and will remain dormant for years. Cases are recorded where soil has remained infectious for twelve and thirteen years. As the bacilli are excreted with discharges from live animals and occur in great numbers from the bloody discharges from dead animals, and soon develop spores on exposure to the air, the disease rapidly spreads from place to place. Anything that can carry spore—flies, mosquitoes, etc.—may act as a transmission of the disease. The carcass of animals dead from anthrax is more dangerous than the diseased animal was during life, and for this reason the carcass should be disposed of as quickly as possible, either by burning (which is the surest way of killing the germs) or by burying with a sufficient quantity of quicklime, which is probably the most simple method."

Texas Fever.—Texas fever is produced by a minute parasite or one-celled animal which lives in and soon destroys the red blood corpuscles. In the acute form of the disease more than one-half of the red corpuscles may be destroyed in a few days, thus producing a thin, watery condition of the blood. This organism which causes the disease is conveyed from southern cattle to susceptible cattle by means of cattle ticks. One means of preventing the communication of the disease is by preventing the transference of the ticks. Killing the ticks by dipping the cattle in oil, with proper precautions, or by applying oil with a brush to infected animals or picking the ticks off and destroying are methods for the prevention of the spread of the disease.

The Rye Product.

An unusual condition exists this season in the southern part of San Joaquin county. According to what Assemblyman Muenter of Lathrop tells the Stockton *Mail*, the rye crop about equals the combined crops of wheat and barley there, and the growers claim that they make as much money as is made by farmers raising either of the two other cereals. Rye requires no preliminary plowing in sandy soils. It is merely sown and worked into the ground with disc harrows. Considerable time and labor are thus saved. It thrives with less moisture than wheat or barley needs, and matures much earlier than the latter grains, so if a drouth comes during the spring it works the farmer no harm, his rye being already past the danger point. Besides that, it yields a heavier crop than wheat or barley would on light soils, and furnishes grazing besides. The grower turns his stock into the field and "feeds the rye off" before letting it head, as it is claimed that it produces a larger crop by so doing. In more compact soils, such as the adobe tracts, and in very rich soils, such as those of the reclaimed lands, rye could not be grown successfully, and it would be too rank and produce stalk at the expense of the heads. The acreage of this cereal in the southern part of San Joaquin county is larger than ever before.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

HOP PICKING.—Oakland *Enquirer*, Sept. 8: Nearly 500 hop pickers are at work in the Pleasanton hop fields. The yield promises to be very large. Pickers are paid 85 cents per 100 pounds. The sugar beet crop is also turning out well and shipments to the Alvarado factory were begun a few days ago.

GOOD YIELD OF BARLEY.—Haywards *Journal*, Sept. 9: The yield of common barley on the Meek ranch was exceptionally good, weighing forty-nine pounds per bushel. The Chevalier was a fairly good crop, and the entire lot weighed over standard weight. Oats, both black and red, were a good yield and of fine quality. The 700 acres yielded 17,000 sacks.

POULTRY SHOW.—Oakland *Enquirer*, Sept. 8: The Oakland Poultry Association, for its second annual exhibition, which will be held Dec. 6th to 9th, has decided to issue one of the most elaborate premium lists and catalogues ever published by a poultry association. Inquiries with regard to the exhibition are already being received. The present outlook is that at least 1500 birds will be exhibited.

Butte.

FERTILIZING WHEAT LANDS.—Biggs *Argus*: Wm. Grant states that Balfour, Guthrie & Co. will experiment with nitrates, phospbate and other potash necessary to supply to exhausted soil food properties, with a view of renewing the productiveness of the soil by fertilization. They will also use the new product called tankage, which is manufactured from the offal of the slaughter houses. That the wheat lands of Butte county have been impaired to a considerable degree by many years of wheat growing is no longer questioned, and the intelligent farmer admits the necessity of supplying the soil with that which has been exhausted by repeated crops of the same cereal during the past thirty or more years. Scientific investigation and analytical tests have demonstrated beyond successful dispute that productive soil must contain a certain percentage of potash, soda, phosphate, etc., and that these elements become exhausted by repeated crops of one kind of product, and, whether the rains fail in season or not, fertilization is necessary in order to obtain good yields year after year.

Fresno.

GRAPE PICKING.—Sanger *Herald*, Sept. 9: Grape picking is now in progress in most of the vineyards and the yield is reported light. The prevailing cool weather is not satisfactory for raisin drying, and many vineyardists have decided to dispose of their crops at the nearest wineries. There is a general complaint about the scarcity of help, and rates for grape picking have advanced to 3 cents per tray.

Glenn.

A GREAT SIGHT.—Orland *Register*: Had our Eastern friends witnessed the closing day of the harvest on the Glenn grant this year, California ranching would have been an eye opener to them. On Friday morning nine combined harvesters started on a 500-acre field of wheat near St. John, and by evening not a spear was left standing. But such an army of horses, mules, men and machinery was enough to make even a Californian open his eyes with wonder. The nine harvesters were drawn by 172 horses and mules, while forty men attended to the machines and sewed the 4500 sacks of grain that were threshed. Then there were twelve teams, each of six mules and two wagons, gathering up and hauling the grain to the river bank.

Kern.

A NEW MELON.—Bakersfield *Californian*, Sept. 7: At the fruit exhibit at the courthouse one of the large jars contains a new kind of muskmelon — new to this country. It is known as the Krust Khavoon, and the seed was brought from Armenia and planted by B. K. Stone. The melon is said to be of fine flavor, and can be preserved in good condition as late as November.

Kings.

NEW PACKING HOUSE. — Hanford *Journal*, Sept. 8: The North Ontario Packing Co. has purchased the lumber shed of the Central Lumber Co., and will turn it into a packing house. This is the first year that this company has operated in Kings county. L. G. Haight is the manager.

PRUNE CROP.—*Journal*, Sept. 8: The prune harvest is now on. The "drop" prunes are being gathered and some are being shaken. Prune picking began at the Kimble orchard last week, and the first picking will be finished to-day. Next Monday the second picking will begin. Mr. Kimble states that the prunes will grade two sizes larger than they did two years ago, when there was a large crop. It will be of fine quality. Fruit is drying very slowly this year, owing to the cool, and even cold, nights which prevail. Two years ago prunes dried and were stacked in four days. Mr. Kimble has prunes that have been out six days, which are yet hardly dry enough to stack.

Los Angeles.

A YARD OF BEANS.—Pomona *Progress*: J. B. Wall brought to this office a China bean pod that lacked only an inch of being a yard long. As those who have grown the China bean know, its pods make a nice dish when young and tender; and as they grow so rapidly—an inch a day—they are always tender when young.

LARGE ORANGE ORCHARD SOLD.—Pomona *Review*, Sept. 9: One of the largest deals in real estate consummated in this valley has been closed. It consists of J. E. Packard's tract of 286 acres, which is planted principally to oranges, lemons and olives. The lucky possessor is A. W. Wright of Chicago. The property is easily worth $200,000.

DIRECTORS ELECTED.—*Review*, Sept. 9: The Claremont Citrus Union held its annual meeting last week and elected Geo. F. Ferris, H. H. Wheeler, A. W. Towne, Walter Schafer and J. R. Moles as directors. Mr. Moles was chosen president and Mr. Wheeler secretary. Mr. Moles and Mr. Ferris were also elected to represent the union in the San Antonio Exchange. Indian Hill Citrus Union held its annual meeting last Saturday. The new Board of Directors are: Messrs. Teague, Currier, Meredith, Brown, Charlton, Campbell, Schureman, Johnstone and Sumner. The Board organized with D. C. Teague, Pres.; C. B. Sumner, Vice-Pres.; W. H. Schureman, Sec'y; A. T. Currier, Treas. Messrs. Teague and Johnstone were elected to represent the union in the San Antonio Fruit Exchange.

ANNUAL MEETING.—*Review*, Sept. 9: At the annual meeting of the Pomona Fruit Growers' Exchange, the report for the year showed that 165 cars of fruit had been shipped, as against 155 for the previous year, for which $98,074 was received, as against $52,071 for 1898. The shipments are divided as follows: One hundred and forty-two cars of Washington Navels; nineteen cars of other oranges, mostly Valencia Lates, and four cars of lemons. The average price received for fancy Navels was $2.12, choice $1 71, standards $1.44. The total receipts were $97,077.85, and the expenses, which included packing and salaries, amounted to $15,156.52, leaving a net to the growers of $81,856 91.

Marin.

SUGAR BEET INDUSTRY.—Dispatch from San Rafael, Sept. 10: Farmers in the vicinity of Tomales have been experimenting with beet culture for the purpose of ascertaining the capabilities of the soil, and have met with such unexpected success that it is not improbable that a refinery will be erected there. The farms of Robert Bally, George W. Burbank, Henry Basset and Abijah Woodworth have been inspected by K. G. Raof. The yield, he thought, would run about twenty-two tons to the acre. The report of the chemist shows that the sugar is 16%, while the purity will run as high as 84%. This showing has encouraged the farmers, and many propose to increase their acreage for the coming season. There are about 10,000 acres along the line of the railroad that are adapted to the raising of beets.

Monterey.

NO FAIR THIS YEAR.—Dispatch from Salinas, Sept. 9: The directors of Agricultural District Association No. 7 have decided not to have an annual Fair this year. The reasons given are that races at Oakland and elsewhere conflict, and it is impossible to raise sufficient money, owing to the short time allowed.

Napa.

PRUNE CROP.—TO THE EDITOR: The prune crop is a very light one. Last season I had over ten tons of dried prunes; this season about 2700 pounds.—IRA W. ADAMS, Calistoga.

HOP PICKING.—St. Helena *Star*: Wednesday morning Dowdell & Son commenced harvesting their hops. The vines have been trained on strings and poles 6 feet high, which gives the women and children easier picking than heretofore. The hops are large, and Mr. Dowdell says that this crop is the heaviest he has had for some years.

Orange.

SUGAR BEET HARVEST.—Anaheim *Gazette*, Sept. 7: The sugar beet crop at Los Alamitos is turning out much better than was expected. Instead of the crop being 10,000 tons, it is now claimed it will be at least 25,000. The farmers have been agreeably disappointed as to their crops. Many expected so small a yield they believed they would scarcely be repaid for harvesting, but when they came to pulling and topping, found they had a moderately fair yield. John R. Williams has just finished delivering beets of fifteen acres. He had 162¼ tons, which will average him $5 per ton, or say $800 for the patch. A few weeks ago he would have taken $150 and called it square. This is a sample of how beets are turning out this dry year. Many beets are going from 18 to 22% sugar and as high as 92% purity.

Placer.

GRAPE CROP.—Auburn *Argus*, Sept. 8: Assessor G. E. Mitchell hears from all quarters that the grape crop in this county will be unusually large and of prime character. The notable absence of extremely hot weather has prevented the too frequent "bake" in the sun. Even if extreme heat follows after this date, the grapes are so far advanced that they would not be seriously affected.

CANNERY BUSINESS —Newcastle *News*: The Lincoln cannery has packed this season sixty-four carloads of canned goods; in 1897 the output was fourteen carloads; in 1898, forty-one carloads; and this season will likely run over eighty carloads.

Sacramento.

BIG TOMATO VINE.—*Bee*, Sept. 5: A few days ago *The Bee* published a letter from a resident of Florin, stating that in W. C. Smith's garden there was a tomato vine fully 9 feet in hight, loaded with fruit in all stages of growth. The correspondent said that if there is another tomato vine in this county that could beat this he would be glad to know of the fact. The correspondent also proudly refers to the fact that some of Mr. Smith's tomatoes measure 13 inches and weigh one and one-half pounds. Sacramento, however, can present a better showing than Mr. Smith of Florin. G. J. Turner has in his yard at 1818 H street two tomato plants, one measuring 11½ feet in hight, the other 10½ feet. The tomatoes are 14½ inches in circumference, and the plants are growing strong. They are to be exhibited at the State Fair.

San Bernardino.

ORANGE SHIPMENTS.—Redlands *Citrograph*, Sept. 9: Orange shipments for 1898 99 are reported at 10,160 cars, as against 14,594 cars last season.

FRUIT CROPS.—*Citrograph*, Sept. 9: Peach cutting and drying is over, except for a very few late varieties. The crop is below the average as to quantity and about an average as to quality. The situation in regard to the coming apple crop is somewhat mixed. Some shrewd crop estimators say that the apple crop will be about normal, but the general consensus of opinion leans towards a shortage of 15% to 20%.

WATER DEVELOPMENT.—The Redlands *Facts* has compiled a table showing that the amount of water obtained recently by boring wells makes a total of 1002 inches.

BEETS RICH IN SUGAR.—Chino *Champion*, Sept. 8: Sugar is pouring into sacks at the factory in a lively manner and attests some of the richest sugar beets that were ever raised in the valley. The sugar percentage is exceptionally high. The daily averages of nine days were 18.2, 16 9, 18 4, 17.4, 16.4, 16 6, 19 5, 17.9 and 16.8. Some of the Puente beets are analyzing over 20% sugar, and the entire harvest so far is uniformly high in sugar. The sugar output is averaging about 1800 bags per day, although as high as 2700 bags were run out one day. The bags contain 100 pounds each. The tonnage sliced, while not as large as at times when working low-grade beets, is well up to capacity when the percentage of sugar is considered. The second day of the campaign there were 578 tons sliced.

San Joaquin.

HEAVY GRAIN CROP.—STOCKTON, Sept. 9: Grain dealers are commencing to estimate the value of this year's crops, and the results stated in the most conservative figures are surprising to even the most sanguine. County Assessor Ortman found that 470,800 acres in this county were planted to wheat this year. At the lowest estimate this acreage raised 250,000 tons. There were 208,900 acres seeded to barley, 970 acres to oats and 80,600 acres to hay. At least 150,000 tons of barley were produced and 80,000 tons of hay cured. At the present prices 250,000 tons of wheat are worth $5,250,000; 150,000 tons of barley, $2,550,000; 80,000 tons of hay, $503,750, and all other products $1,796,250, making in all a grand total of over $10,000,000.

Santa Clara.

COUNTY FAIR.—San Jose *Herald*, Sept. 8: The Santa Clara Valley Agricultural Society is making active preparation for the district fair, which opens on the 25th and continues for five days. The directors plan to make the fair an old time success. The live stock and poultry department is to be a special feature. It is said that fully 500 exhibits will be seen. Liberal premiums will be given in all departments. The races will be of a high order. The programme is well filled out and many speedy horses will contest A special feature will probably be a contest between automobiles.

CANNERY CLOSED.—San Jose *Mercury*, Sept. 11: The J. C. Ainsley Packing Co. at Campbell ceased canning on Thursday, after a very successful run of two and a half months. The total pack for the season is 1,100,000 cans, or about 45,000 cases. Money paid out for fruit about $50,000; average price to the fruit grower of about $45 per ton; $25,000 was expended for labor, making a total of $75,000 that the cannery has distributed among us this summer. The capacity of this plant is being increased every year. A new boiler and a large warehouse were added last spring, and by adding to the storage capacity one-third more can be packed next season. The drier folks are having busy times; their entire field is still covered with trays of fruit, which is now curing rapidly, as the weather has turned much warmer the past few days.

Santa Cruz.

FRUIT CROP.—Watsonville *Pajaronian*, Sept. 7: Up to Sept. 4th the shipments of fruit from this valley to California points were estimated as follows: Berries, 48,981 chests; other fruit, 59,778 boxes. In "other fruit" are included all tree fruits, such as cherries, apricots, peaches, plums, prunes and early apples. Bellefleurs are maturing slowly this year, and it is feared that there will not be the proportion of large fruit which was first anticipated.

BEET BLIGHT.—*Pajaronian*, Sept. 7: The beet fields of the San Juan district have been seriously affected by the prevailing blight. Fortunately, but a very small fraction of the splendid beet crop of Pajaro valley has been touched. Some farmers who have been endeavoring to find a cause for the rapid shrinkage of the beet crop in the San Juan and other districts incline to the opinion that the blight has shown strongest in fields where grain was turned under so that beets could be planted and that the trouble is due to decay of the turned-under vegetation.

Solano.

HEAVY GRAIN CROP.—Sulsun *Republican*, Sept. 8: Julian Hoyt has just finished harvesting. The acreage sown was 1400 acres, of which 1200 acres were planted to wheat, 100 to barley and 100 to hay. He used a 16-foot combined harvester, and it took fifty-six days to harvest the grain on the ranch. The result of the harvest was 16,200 sacks of wheat, 1000 sacks of barley and about 200 tons of hay. The wheat averaged thirteen and one-half sacks to the acre, although the early-sown yielded as high as sixteen sacks to the acre. The late-sown, however, did not yield as well and thus cut down the average. Mr. Hoyt informed us that this is the largest crop produced on the ranch since 1884, and the grain being warehoused makes the largest pile of grain ever put into the warehouse at Bird's Landing by one owner.

SUGAR BEET INDUSTRY. — Dixon *Tribune*, Sept. 8: The first carload of beets to open the campaign in Dixon will be shipped this week. The yield in tons per acre is not satisfactory, but the percentage of sugar is extremely gratifying. The tests that have been made reveal a percentage of from 16 to 22% of cane sugar.

Sonoma.

LARGE FRUIT SHIPMENTS. — Santa Rosa *Press-Democrat*, Sept. 9: From the Occidental and Freestone districts the report comes that the shipment of fruit this season has been double that in previous years. All the crops are large this year.

HOP CROP.—*Sonoma County Farmer*, Sept. 8: The hop crop is king, and is the best known for years. The vines in all fields are loaded, and the hops are both large and solid, while the hop men are jubilant over the prospect of getting 14 or 15 cents a pound for the cured hops. The ruling price paid for picking in all yards is $1 per 100 pounds.

WINE MAKERS ELECT OFFICERS.—Santa Rosa *Press-Democrat*, Sept. 9: At a meeting of the directors of the Fulton Winery, P. C. Rossi was elected president, M. J. Fontana vice president, A. Merle treasurer, Andrea Sbarboro secretary, and A. J. Dehay superintendent. The winery is now virtually owned by the Italian-Swiss colony with the exception of a few shares owned by Mr. Dehay. Extensive improvements are being made. A large amount of new cooperage and modern machinery is being put in. Crushing will begin in about a week. An immense quantity of grapes will be handled. At the Asti colony grape crushing commenced a week ago.

LARGE QUINCES.—Petaluma *Courier*, Sept. 6: L. D. Gale brought to this office a half dozen quinces weighing seven pounds and seven ounces, an average of a pound and a quarter each, the largest one being 15 inches in circumference, and weighing a pound and a half.

GRAPE CROP.—Cloverdale *Reveille*, Sept. 9: The grape season is now fairly on and by next week the ten wineries in this section will be under full operation. There is considerable difference of opinion as to the extent of the crop. Some venture that the crop will be a fifth short of last year, while others predict about the same output as last season. Wine men are much pleased with the favorable season. Not for years have the conditions been more propitious for producing a superior grade of wine. While the crop is light, the grapes are large with plenty of juice and sugar, and these conditions are necessary for good wine-making. The weather has been cool and pleasant and a continuation is most desirable, as fermentation is slower and more thorough.

Tehama.

GRAPE CROP. — Red Bluff *Cause*, Sept. 9: The month just closed was the coolest August in a record of twenty-three years. The extraordinary cool wave still prevails and the viticulturists are complaining. In size and color the grapes are all that could be desired, but owing to cool weather there is a lack of sugar. Besides, the grape crop will be late and there is much concern lest the crop ripens too late to obtain the best results.

Tulare.

LARGE SALE OF PRUNES.—VISALIA, Aug. 31: The crop of prunes on the Encina ranch was sold to one purchaser to-day. There were 410 tons in the entire lot. It is the biggest single transaction in fruit in this county this season. The price was 2¾ cents per pound, less 5% for commission.

Yuba.

FINE HOP SPECIMEN. — Sacramento *Bee*, Sept. 9: Joseph Guter brougbt in a specimen cluster of hops grown on Horst's ranch, near Wheatland, which was greatly admired by hop men. The piece of vine is about 18 inches in length. The tendrils bearing the hops are fully a foot long. The hops are fully matured and dried, and the entire mass weighs 1⅓ pounds.

OREGON.

WHEAT DAMAGED BY RAIN. — PORTLAND, Sept. 4: Dispatches from all parts of Oregon, Washington and northern Idaho show that heavy rain fell last night and to-day. Harvesting has been seriously interfered with and grain has been damaged. Much grain which has been standing in shock nearly a month is ruined except for feed, and standing grain has been badly damaged. It is impossible at present to make an accurate estimate of the damage, but it is thought the loss will reach 25% of the total yield of the Northwest.

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THE HOME CIRCLE.

Harvest Thoughts.

When lusty August brings the purpling grape,
And all the tendrilled branches of the vine
Are rich with promise of the coming wine;
When Summer faints and Autumn's fingers shape
The ripening grain in rustling fields that drape
The laughing plain or heaven-aspiring hill,
When glowing apples fragrant incense spill,
And luscious juices from pale pears escape—

Then swells the heart with memories of old days,
And dreams of those to come like mists arise
Between the soul and cold and cruel skies,
While store of mellowed thought the mind repays.
And thus, ere winds grow bleak and senses sere,
Are yielded up twin harvests of the year.

—Woman's Home Companion.

Sweet and Low.

Sweet and low, sweet and low,
Wind of the western sea,
Low, low, breathe and blow,
Wind of the western sea!
Over the rolling waters go!
Come from the dying moon and blow,
Blow him again to me,
While my little one, while my pretty one sleeps!

Sleep and rest, sleep and rest,
Father will come to thee soon.
Rest, rest on mother's breast,
Father will come to thee soon!
Father will come to his babe in the nest!
Silver sails all out of the west,
Under the silver moon;
Sleep, my little one, sleep, my pretty one, sleep!

—Alfred Tennyson.

Summer Night.

All in the leafy lanes
The glow worm lights his lamp;
The nightingale complains
In scented dew and damp.

The nightingale her ache
Bares to the lonely night,
When there is none awake—
Nothing in vale or height.

The glow worm lights his lamp
Under the blossomed May,
Hung in the dew and damp,
His lamp lights up the way.

The nightingale complains
All night to field and grove;
The glow worm in the lanes
Hath lit a lamp to love.

—Pall Mall Gazette.

Career of a Capitalist.

I had long had a desire to become a capitalist. Lucille seemed to think it smart to laugh at me for this extremely laudable and perfectly natural ambition. As for her, she wasted her substance in riotous living, spending every cent of her salary on opera tickets, imported toilet articles, and tortoni biscuit, with a reckless disegard for the future that could only mean one thing, namely, matrimonial hopes.

And, to tell the truth, Lucille was attractive enough to warrant her having some hopes in this direction, and could have had her pick any time from half a dozen young fellows, each one of whom got almost as much salary as she did.

But that has nothing to do with my own ambitions, which were of a very different sort. I say were, for I'm not so sure about them now, my first experience as a capitalist having rather unsettled my views of life for the time being.

I was very young indeed when I first formed my ideas as to the desirability of wealth. It was away back in my childhood, when old Mr. Higginson used to come to church in his great fur-lined overcoat and dirty linen, and I observed how the minister and the elders crowded around him to shake his hand, when he was such a hateful old curmudgeon that I had privately thought the Lord ought to have made some sort of a public apology for perpetrating him on the community.

"Oh, Higginson has got a lot of money out at interest," my father would say when I ventured to wonder why people made such a fuss over a dirty and disagreeable old man.

What a marvelous power "money out at interest" must be, I thought, when it can transform even Mr. Higginson into an acceptable companion.

And so at that early age I was made acquainted with the potency of wealth, and I resolved that some day I, too, should have "money out at interest."

When I was made head stenographer in a big law office I considered my ambition as good as realized. It had seemed so far away before that I'd never tried to save very much, but now that it was fairly within my reach I began to lay up money at a frantic rate.

"If you get another raise in your salary you'll be so stingy you'll take to lunching out of the mucilage bottle and wearing your bicycle suit to church," said Lucille in disgust.

But I just let her jeer and kept on economizing, and at last there came a day when I had $1500 in the bank. Mr. Adams, a friend of my father's, invested it for me in a first mortgage on a suburban cottage, and when the papers were signed I went home flushed and triumphant.

"Congratulate me, Lucille," I cried, throwing myself into a chair and my hat on the couch. "I haf inveshtigated mein moneys."

Lucille was trimming a hat to wear to the theater that night, one of those silly white tulle affairs that a single shower will transform into an imitation custard pie before your very eyes.

"Huh!" she exclaimed, "I believe you think you've done something really fine. Sara Dunning, if you don't look out, your nose will grow hooked just like Mr. Dunkelspiel's down at the pawnbroker's shop."

"What do I care!" I retorted gayly. "I've got money out at interest. Lucille, do you realize what that means?"

"It means that you've worked like a slave and denied yourself all pleasure for a year and a half to get it, and you're thin as a shad and as yellow as a lemon. Come on and go to the theater to-night and forget that you're a capitalist long enough to enjoy yourself, that's a dear."

But the fever was in my blood, and I wouldn't listen to her.

So I went on putting money in the bank and looked forward eagerly to the time when the interest from my investment would begin to come in.

It was paid promptly enough the first quarter and the second. Then it lapsed. Six months went by and no interest.

"It seems to me," remarked Lucille one day, "that you'd better investigate that money in dead earnest."

"Oh, don't worry yourself," I retorted snappishly. I was nervous of late, and besides, Mr. Higginson was allowed to be as cross as he liked, I remembered.

"Well, it's a great thing to have money out at interest," she responded airily, tilting her sailor hat over her nose and shaking out her rustling skirts preparatory to going out. She was really outrageously pretty.

At the door she met some one coming in. A pale, forlorn-looking old woman, with a pinched face and an appearance of having cried for six months.

"Is this Miss Dunning?" she asked.

I assured her it was, and she proceeded timidly: "I called to see you about that mortgage."

"Ah, yes," I said, hastening to shut the door on Lucille, who was lingering in the hall in an unprincipled fashion which I could not approve.

"We've been unable to meet our payments lately," went on my visitor in a depressed tone, "and yesterday your agent sent me word you intended to foreclose. Oh, Miss Dunning, don't. Please don't be hard on us. My poor husband has been sick in bed for a year, and if we lose our little home it will kill him."

Here the poor creature burst out crying, and I reached for my handkerchief, feeling somehow that being a capitalist wasn't such fun as I'd imagined.

"Oh, Miss Dunning," proceeded my guest, as soon as she was able to speak, "if you knew how hard we worked to build that house. We put the savings of years into it, thinking that in our old age we'd have a roof over our heads. And now we must lose it all."

A fresh burst of sobbing interrupted her, and I swallowed a succession of what seemed to be cobblestones. I tried to think what Mr. Higginson would have done in such an emergency, and wondered if he ever felt as much like a chicken thief as I did at that moment.

"Why, don't cry," I managed to say at last. "I'll not deprive you of a home. I only bought the mortgage as an investment, you know."

Here I was actually apologizing for having money out at interest. The poor woman went away a little comforted at last, and I went to bed with a nervous headache.

I rather lost interest in my mortgage after that. I didn't sleep well for some reason, and when I did doze a little my dreams were haunted by weeping old ladies. I got a bad habit of going into a brown study at inconvenient times, and would start guiltily when spoken to suddenly.

One day I got a note from Mr. Adams saying he was going to foreclose at once, and assuring me that I'd get my money all right — I needn't worry. Somehow I didn't find the assurance comforting, and went home without any appetite for supper.

"May the Lord preserve me from ever becoming a capitalist," cried Lucille, looking at my face as I sat trying to read after supper. "You look, my dear, for all the world like Judas Iscariot after he was found out. A funeral would be cheerful beside you. Thank goodness, Bob is coming to-night."

Bob is Lucille's cousin, a young lawyer, and the jolliest boy going. But alas! when he came, Bob was in the blues, too. He sighed like a furnace every ten moments, and finally announced that he couldn't stay.

"I want to see a man named Adams about a mortgage," he said, and I turned cold all over.

"It's the saddest case I ever heard of," he went on. "An old couple who are clients of mine had a mortgage on their home. It was bought a year or so ago by some shark or other."

I covered my eyes with my hands just here, and Lucille coughed in an embarrassed way. But Bob noticed nothing and proceeded in a troubled tone:

"Of course, they couldn't keep up the interest. Whoever bought the mortgage knew they couldn't. Such people always figure on that, you know, and now the poor old chap has gone crazy over losing his home—clean daffy, you know—and his poor wife will be turned out unless something is done."

There was a dead silence for a moment when he stopped, and then I got up without a word and, going to my desk, unlocked the drawer where I kept the precious mortgage. With trembling fingers I seized my pen and with a few strokes canceled the mortgage, and as I did so a load rolled off my heart.

"Here," I cried, eagerly, to the mystified Bob, "take this to that woman, quick, to-night!"

"Oh, Sara," cried Lucille, you worked so hard for that money."

"So has she," I said. "And I am young and strong, while she is old and helpless. Oh, Lucille, if you knew how I've hated myself lately."

Lucille took me in her arms, and then explained things to Bob, while I cried a little, though I couldn't help thinking what Mr. Higginson would have said at my behavior.

We got Bob off at last, as happy as a lord, and then Lucille embraced me again.

"You were never cut out for a capitalist. I knew it all the time," she cried, triumphantly.

"Thank you, dear," I said, meekly. "And say, Lucille, let's go to hear Maude Adams to-night."

"Why," she exclaimed, her eyes as big as saucers, "the prices are way up in G."

"Who cares?" I said. "I'm richer to-night than I've been for years."

And we went. — Chicago Times.

Books for Children.

The report upon the prize competition of twenty-five books for a young folks' library appears in *St. Nicholas*. It shows that a great many care much as to what children read, and that a very great many children are mightily occupied with the joys found between book covers; also that numbers of the lists sent in by children and young people are better than many of those made out by careful parents, teachers and librarians.

The list sent in by the winner of the first prize is as follows:

1. Ivanhoe—Scott.
2. Quentin Durward—Scott.
3. Pathfinder—Cooper.
4. Last of the Mohicans—Cooper.
5. Jungle Books—Kipling.
6. Westward Ho!—Kingsley.
7. Arabian Nights.
8. The Rose and the Ring—Thackeray.
9. Wonder Book—Hawthorne.
10. A Tale of Two Cities—Dickens.
11. Christmas Stories—Dickens.
12. Poems of Longfellow.
13. Works of Shakespeare.
14. Treasure Island—Stevenson.
15. Child's Garden of Verses—Stevenson.
16. Tom Brown at Rugby—Hughes.
17. Pilgrim's Progress—Bunyan.
18. Sketch Book—Irving.
19. The Man Without a Country—Hale.
20. Robinson Crusoe—Defoe.
21. Gulliver's Travels—Swift.
22. Alice in Wonderland—Carroll.
23. Uncle Remus—Harris.
24. Jackanapes—Ewing.
25. Wild Animals I Have Known—Thompson.

SUBSTITUTES.

2. Lady of the Lake—Scott.
3. The Caged Lion—Yonge.
6. Water Babies—Kingsley.
9. Rudder Grange—Stockton.
10. Autocrat of the Breakfast Table—Holmes.
15. King of the Golden River—Ruskin.
19. Lays of Ancient Rome—Macaulay.
24. Little Women—Alcott.
25. Fairy Tales—Andersen.

A Story of Ben Butler.

Once when Ben Butler was a member of a commission to examine young applicants for admission to the bar, as the story goes, there came before him a youth who failed miserably on all that pertained to jurisprudence, case law, civil law, sumptuary law, unwritten law, and due process of law. Finally, Butler, who rather liked the chap and wanted to see him through, asked: "What would you like to be examined in? You have failed in everything we have suggested." The reply came: "Try me on the statutes; I'm up on them." Butler shook his head solemnly. "My young friend," he said, "I'm afraid you won't do. You may be ever so familiar with the statutes, but what is to prevent a fool legislature from repealing all you know?"

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Susan B. Anthony.

Miss Susan B. Anthony returns to America after a two months' sojourn in England and Scotland, where she went for the double purpose of attending the International Congress of Women and studying the many questions in which she is interested relating to women's work in the world, and to visit the old friends of woman suffrage whom she met sixteen years ago while making a tour through the old world.

Miss Anthony says the cause of woman suffrage is much further advanced in England than in this country, although the activity is much greater here in all women's organizations. In England all property-holding women, either married or single, are given the right to vote in parish and district affairs. It is further said that fully one-half of the poor law guardians are now women. Their work in this capacity has been uniformly successful.

Miss Anthony considers the work of the International Council as very encouraging for the cause of woman suffrage. Representative women from all the civilized countries of the world were in attendance, and the interchange of opinion, she thought, would result in stronger and more intelligent action in the future along all lines of effort.

Miss Anthony, now in her eightieth year, returns from this long and tiresome journey, where her time has been in constant demand, refreshed in health and apparently as full of life and vigor as most women one-half her age. While she has been dined and feted by the lords and ladies of the United Kingdom, and, if the newspaper reports are true, was the "heroine" of that great congress of women, she is ever the same dear "Aunt Susan," with never a thought of personal glory. She has truly earned all the glory that can be bestowed upon her; never for one moment has the cause of woman been forgotten or put aside for any other object; never a single tie has been formed, either of affection or business, which would interfere with her one purpose in life; every dollar of her money, every power of her being, has been given to the cause of woman. She has dared to take the blows and bear the scorn that other women might be free, and we rejoice that humanity is beginning to realize that debt of gratitude which it owes to Susan B. Anthony.

ELNORA M. BABCOCK.

Hot Weather Drinks.

To make a lemonade shave off the peel of four lemons into a large cup of water; add a pound of sugar, and boil the syrup for ten minutes. There should be a liberal pint of thick syrup. Add the juice of the lemons and whatever pulp can be pressed through the squeezer. Take out all the seeds carefully. Add three large cups of water to the lemonade syrup and beat the mixture thoroughly. Add, finally, half a cup of the pulp of the blood orange, cut into bits, and the same amount of well-sugared pineapple chopped very fine. Set the lemonade where it will become ice cold. Add a tablespoonful of crushed ice to every tumblerful of lemonade and fill up the glass with the chilled beverage.

To make oatmeal drink No. 1, put into a large pan a quarter of a pound of fine fresh oatmeal, six ounces of white sugar and half a lemon cut into small pieces. Mix with a little warm water; then pour over it one gallon of boiling water, stirring all together thoroughly, and use when cold. This makes a most refreshing and strengthening drink. If preferred, raspberry vinegar, citric acid or any other flavoring may be used instead of the lemon. More oatmeal may be used if preferred.

Oatmeal drink No. 2 is made of six ounces of fine oatmeal, four ounces of cocoa and eight ounces of sugar, mixed gradually and smoothly into a gallon of boiling water. Use when cold.

Serene will be our days and bright,
And happy will our nature be,
When love is an unerring light,
And joy its own security.
—William Wordsworth.

Success on a Farm.

At a meeting of the Quinebaug (Conn.) Pomona at Woodstock, George Towne of Mashapaug said: The ambition to succeed may be and always should be a laudable one. It is the ambition of every young man for himself and of every parent for his child.

Success has a different signification to different minds. To one it represents a large account at the bankers, to a second a comfortable estate, two a third a high place in society, to a fourth a title or an office, and to a fifth, the trumpet-voice of fame. By nine out of ten it is identified in some way with money-getting. Now, while many truly successful men have been wealthy and while money as a means to an end is a splendid good, yet simply as an end it is a serious evil, and while it is commendable in a young man to resolve upon earning a competence he ought to keep ever in mind the fact that it is possible for one to attain the highest degree of success and yet live and die in poverty, and sometimes what the world calls failure is in reality the truest success.

Can a young man succeed in farming? The first point to be considered is, does he like it. For no one can succeed in a business for which he has a positive aversion. A man out of place may manage to get a living, but he works mechanically, he is constantly looking at his watch and thinking of his salary. It matters not so much what your work is if it be honorable and you like it.

Farming is the destined occupation of all men at birth, and he who forsakes it for other pursuits must show substantial reasons for the departure to entitle him to encouragement. To the young man possessed of a fair amount of health, intelligence and strength and who has not an unmistakable inclination and aptitude for some other calling no occupation offers so sure and easy a path to success as agriculture.

Daily exercise in the open air, constant contact with the soil, a wholesome diet, the peaceful surroundings make the farmer's life a pre-eminently healthy one, and surely health is one of the most important factors in success.

The time is soon coming—if not already here—when the farmers will be the great middle class, standing between the few who are very rich and the many who are poor.

We often hear it said and that, too, by farmers, that farming will not pay. No business conducted as some farmers conduct theirs will pay, and it is the best evidence of the remunerative nature of agriculture that so many are able to get a living out of it. They would fail in any other calling. You are likely to get out of a business what you put into it and for the amount of capital put into farming it will give as good returns as any business. The young man of to-day ought not to feel that rural life will debar him from success or from the enjoyment and development of his social and intellectual faculties. Whenever I see a young man of good habits and with a high purpose go on a farm to work out with patience his courage and destiny, I have no doubt of his ultimate success.

To Remove Fruit Stains.

With the frequent service of fruits, the table linen is apt to suffer. Before sending to the laundry, the tablecloths and napkins should be carefully examined and the spots removed, as soap sets the stains. Most fruit stains, taken in season, can be easily removed from linen by putting the stained portion over a bowl and pouring a stream of boiling hot water through it. When the spots are obstinate, however, acids must be used. Oxalic acid, allowing three ounces of the crystals to one pint of water, will be found useful to be kept on hand for this especial purpose. Wet the stain with the solution and hold over hot water or in the sun. The instant the spot disappears rinse well. Wet the stain with ammonia, then rinse again. This will many times save linen.

Javelle water is excellent for white goods, and may be made at home or purchased at the druggist's. A good rule for making it calls for four pounds of washing soda, dissolved in four quarts of soft water. Boil ten minutes, take from the fire and add one pound of chloride of lime. Cool quickly, bottle and keep tightly corked. This is strong, and must be handled with extreme care. Peach stains are the hardest of all fruit stains to remove, but a weak solution of chloride of lime, with infinite patience in its application, will frequently effect the desired result.

DOMESTIC ECONOMY.

Points on Canning Fruit.

To some people canning fruit is one of the biggest bugbears of their household duties. They dread it, and from the time the first berries and cherries make their appearance until the last peach and pear have been taken care of they live in constant fear of their fruit fermenting and spoiling. With myself, while it is a work that I have no fears as to the result, it is always satisfactory—always what I intend it shall be—a success.

In canning fruit for sauce, I measure into my preserving kettle only enough raw fruit, as near as I can guess, to fill one jar when it is cooked. This method may seem very tedious to some, but in the end it pays, for in this way the fruit has a chance to be thoroughly cooked without crowding, and the danger of cooking it too much is also lessened. To save time one can have several kettles over the fire at once, but do not try to expedite matters by cooking a large quantity of fruit altogether. I have seen it tried a number of times, always with the same result—if not absolutely sour when opened, it would be a flat failure.

Another important point which should be carefully watched is to have the jars perfectly air-tight, and, in using the self-sealers, if the tops do not screw on sufficiently tight with one rubber, add an extra one. This should remedy the trouble which is caused by the jars being uneven or defective at the mouth.

After the fruit is canned, protect from the light by wrapping paper around each jar; or, better still, fill the boxes in which the jars came when purchased and set in a place with as little change of temperature as possible. There will be no danger of its spoiling if it has been properly cooked.

Hints to Housekeepers.

Flour should always be sifted just before using, and measured after sifting.

Dry hair and a scaly scalp require nourishing. Rub a little olive oil into the roots of the hair with the finger tips twice a week, making partings all over the head for that purpose.

When baby's skin is chafed, put a pinch of boracic powder into a little warm water and sponge the chafed skin after her bath; dry gently, apply a little cold cream, and dust with baby powder.

A spoonful of scrambled eggs or omelet left from breakfast and spread between slices of buttered bread or biscuit makes a school luncheon sandwich that is usually found acceptable. A spoonful of creamed codfish, also, is not to be despised as a savory "filler" for the omnivorous sandwich.

The housekeeper who in a case of emergency wishes a substitute for cream for her coffee beats the yolk of an egg with one tablespoonful of cold water. She then heats sufficient milk for six people and pours it over the egg, stirring constantly, and also stirring while the hot coffee is added.

Flower favors at luncheons and dinners have given place to charming little fruit conceits arranged by the deft fingers of the hostess. As illustration, a long, stout straw, at the top of which a cluster of green leaves from the cherry tree are secured, and just below them fall ripe cherries, tied with a bow of narrow pale green or white satin ribbon. The supporting straw is cut a graceful length to rest across the serving plate or water glass, until lifted by taper fingers to ruby lips.

The latest fad in teapots is the old-fashioned, odd little style known as "Rebecca at the Well," from the raised decoration on its side. This same little highly-glazed brown pot "brews the tea as no other can," so tea epicures insist. Ornamented with a monogram in gold it is popular among wedding gifts.

Iced chocolate is frequently served at luncheons or the popular bicycle teas in lieu of iced coffee or tea. Make the chocolate, allowing a heaping teaspoonful to each half pint of boiling water. Stir the chocolate with a little hot water until smooth and shiny before adding the full amount. Cook in a double boiler for five minutes, sweetening it to taste. When cold a half a cup of cream is added, with a half teaspoonful of vanilla extract or two or three drops of cinnamon, after the custom of the Mexicans. Whip with a Dover egg beater until light and foamy and served with chipped ice in tall glasses.

Domestic Hints.

LUNCH ROLLS.—Sift together one pint of flour, one teaspoonful baking powder, and half a teaspoonful of salt; work in one teaspoonful of lard or butter and add one-half pint of milk; mix to a smooth dough, roll out to half an inch thickness, and cut into circular shapes. Bake in a moderate oven.

BLACKBERRY JAM.—Allow equal weight of sugar and berries. Mash half the berries and sift all but the seeds through a fine sieve. Add the remainder of the berries, mashed but not sifted, and simmer half an hour, stirring frequently. Add sugar and boil five minutes. Turn into small jars and seal when cold.

LEMON WATER ICE.—In a large saucepan put one quart of water, one and one-quarter pounds of sugar, the thinly pared yellow rind of one orange and three lemons, bring to the boiling point and boil for five minutes, then strain and cool. Squeeze the juice from the fruit, strain it and add to the syrup when cold. Pour into the freezer and freeze slowly until firm; remove the dasher, repack the freezer, and set aside for two or three hours to ripen.

CORN CROQUETTES.—Husk one dozen ears of young corn, score each row of kernels with a knife and scrape out all the pulp. Put in a double boiler over the fire to heat. In the meantime rub together to a paste one tablespoonful of butter and two tablespoonfuls of flour. Add this to the corn when steaming hot and stir until it is smooth and very thick. Add one-half of a teaspoonful of salt and one-third of a teaspoonful of pepper and turn out on a greased platter to cool. When cold and firm form into croquettes, dip each into slightly beaten egg, roll in fine bread crumbs and fry golden brown in smoking hot fat.



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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 13, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per husbel:

	Dec.	May.
Wednesday	71 @71¾	—@—
Thursday	71¼@71¾	—@—
Friday	71⅛@71½	—@—
Saturday	—@71¼	—@—
Monday	70¾@71⅛	—@—
Tuesday	72 @71	—@—

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 9¼d	5s 11⅜d
Thursday	5s 9⅜d	5s 11⅜d
Friday	5s 9¼d	5s 11⅜d
Saturday	5s 9 d	5s 11⅜d
Monday	5s 8½d	5s 10¾d
Tuesday	5s 8⅝d	5s 10¾d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 10⅛@1 10⅛	1 15⅞@1 15⅜
Friday	1 10¼@1 10	1 15½@—
Saturday	*—@—	—@—
Monday	1 09⅞@1 10¼	1 15¼@1 15⅝
Tuesday	1 10⅝@1 09⅞	1 16¼@1 15½
Wednesday	1 10½@1 10⅝	1 15¼@1 15¾

*Holiday.

Wheat.

The bears bave heen hammering away at wheat values all the week, and while conditions were temporarily largely in their favor, they did not make very much headway in tbe speculative markets, where most of the business was done. The decline in Chicago for the week was hardly a cent per bushel. In Liverpool the depreciation in futures was about 1c per cental. On the local Call Board the decline for the week did not exceed 1c per cental. In the spot market quotations were reduced about 25c per ton, in accordance witb the reduced bids of shippers, but sellers were far from being numerous at tbese figures.

Tbere is no disguising tbe fact that the hears have temporary control of tbe wheat market, although it can be easily demonstrated, statiatically and theoretically, that wheat is entirely too low. So long as there is more wheat offering, both in this country and in Europe, tban is required for the immediate demand, so iong will the situation he against sellers, no matter what statistics may disclose as to higher prices being warranted. It is something akin to the case of the man who was arrested and jailed, and was then told by his lawyer that be could not he placed in jail, hut, says the client, "I am already in." So wheat is already in the dumps, and all the theorizing under beaven will not alter the fact tbat grain is aelling at discouragingly iow and unprofitable figures. It is likewise true that it would be wholly in keeping with previous experience under similar conditions to have a sharp reaction in values later on. It is certainly to be hoped that the latter will prove to be the case at an early date. Wbat is now most to he feared, and what the hears are calculating on, is that many farmers will weary of holding before there is any urgent demand for their wheat, and in the general rush to realize will demoralize the market and send wheat values to still lower levels. Holders who are not prepared to tide over such an emergency would probably be hetter off if they had unloaded at tbe first opportunity. Serious damage by recent rains in Oregon and Wasbington improves the prospects on this coast for good wheat later in the season. For the time being, however, the sky encircling tbe wheat market reveals no very bright spots. In connection with a rather discouraging foreign market, a still worse feature is the paucity in tbis quarter of the globe of ships suitahle for the grain-carrying trade, and the naturally high freights in consequence of this light supply of deep-sea vessels. Tbat this will be remedied there is no doubt, but ships cannot be brought here at a minute's notice. It will likely be ninety days or more before the spot aupply of ocean tonnage availahlc for wheat carrying will show material increase. This month's Government report places the crop at 450,000,000 bushels, which is 50,000,000 to 75,000,000 busheis iess than previous private estimates. To offset thia, it is now stated that Russia's crop will prove the second largest on record. This may he so, but it ia ahout impossible to get any correct information of Russia's resource.

California Milling	$1 05	@1	10
Cal. No. 1 shipping, alongside	1 02½	@1	03¾
Oregon Valley	1 02½	@1	05
Walla Walla Blue Stem	1 05	@1	10
Walla Walla Club	1 00	@1	05
Off qualities wheat	97½	@1	02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per centai for tbe week were as follows for the options named:

Decemher, 1899, delivery, $1.10⅝@1.09⅞.

May, 1900, delivery, $1.16¼@1.15¼.

Wednesday, at regular noon session of Call Board, Decemher, 1899, wheat sold at 1.10¼@1.10⅜; May, 1900, $1.15½@1.15¾.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotationa	6s2½d@6s3d	6s0d@6s0¼d
Freight rates	25@27½s	33¼@—s
Local market	$1.10@1.15	$1.02½@1.06¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in tbis city.

Flour.

No aigns have been discernible of much trading in this commodity tbe past week, either on foreign or local account. Stiffer asking rates were reported in Oregon and Wasbington, owing to damage to the wheat crop in those States, hut the situation bere was not perceptibly affected thereby. Spot aupplies of flour are quite liberal, as compared with the immediate demand, and concessions to huyers are of frequent occurrence, especially when transfers of noteworthy magnitude are effected.

Superfine, lower grades	$2 40	@2	60
Superfine, good to choice	2 65	@2	90
Country grades, extras	3 00	@3	25
Choice and extra choice	3 35	@3	60
Fancy brands, jobbing	3 60	@3	75
Oregon, Bakers' extra	3 00	@3	40
Walla Walla, Bakers' extra	3 00	@3	40

Barley.

While the outward movement is not of as large volume as a few weeks ago, tbere is still considerable barley going afloat for Europe, mucb of it representing purcbases made in the interior at relatively higher figures than were at the time obtainable in tbis center. This is an old trick of tbe trade, keeping the market down bere so as to be able to operate to advantage in tbe country. Over 70,000 tons of barley has gone afloat since the beginning of the season, mostly for Europe. Tbis is a greater quantity tban was shipped during corresponding period two years ago, when the outward movement was liberal and above the average. Business on local account was not very brisk in the sample market, either in brewing or feed descriptions. Quotable values kept close to tbe figures of previous week, although buyers endeavored to bammer prices down to lower levels. On best qualities, more especially, the tendency in favor of buyers was not very pronounced or noteworthy. Trading on Call Board was of much the same slow order as for a week or two preceding, witb fluctuations of narrow compass, and most of the business transacted was in December option.

Feed, No. 1 to choice	$2½	@	83¾
Feed, fair to good	75	@	80
Brewing, No. 1 to choice, new	90	@	97½
Chevalier, No. 1 to choice	1 15	@1	20
Chevalier, No. 2	—	@	—

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for tbe options named:

Seller 1899, new, ——@——c.

December, 1899, delivery, 84⅜@84⅝c.

Wednesday, at regular noon session of tbe Call Board, Dec., 1899, feed was offered at 85c; 84½c bid; seller 1899, new, —c.

Oats.

The demand lately has been largely for low priced oats, causing the market for sucb, more particularly Reds, to be relatively firmer at the current rates tban for the different grades of white oats, which are being held at a higher range of values. Reds and Blacks have for some time past heen most in evidence, but supplies of Whites and Grays are on the increase, and will likely he of fairly liberal proportions in a few weeks. Surprise are in such light stock that any values named for the s me at present are little more than nominal. This variety is not in as great favor as it was some years ago, not even for race horses. It is a beautiful oat, hut its thick and tough bull is against it for feeding purposes.

White Oats, fancy feed	1 22½	@	——
White, good to choice	1 12½	@1	17½
White, poor to fair	1 05	@1	10
Gray, common to choice	1 10	@1	20
Milling	1 15	@1	20
Surprise, good to choice	1 25	@1	30
Black Russian	90	@1	05
Red	95	@1	12½

Corn.

Eastern Large Yellow and White are in fair supply, sufficient to accommodate all immediate custom, as well as likely to prove ample for the prospective needs of the near future. Market for imported product cannot be said to he firm, but values are being about as well sustained as for a fortnight or more preceding. Domestic Small Yellow is hardly quotable and is obtainable only in a retail way, one firm practically controlling the little now remaining.

Large White, good to choice	1 07½	@1	10
Large Yellow	1 05	@1	07½
Small Yellow	1 40	@	—
Eastern Mixed	1 00	@1	02½

Rye.

Despite the recent comparatively liberal shipments to Europe, values sbow no quotable improvement. The local demand at present is not urgent.

Good to choice, new	90	@	97½

Buckwheat.

Market ia quiet and almost bare of spot stock. Some new is offering to arrive, but it is difficult to get buyers and sellers to agree on terms. Values are not well defined.

Good to choice	2 00	@2	15
Silverskin	—	@	—

Beans.

Not mucb doing in beans of any description. Buyers are holding off, aa a rule, awaiting increased offerings of new crop. Arrivals are not large from any quarter, and include considerable quantities of last year's product. There has been a decided drop experienced in prices of Blackeye, some growers making sharp cuts in asking figures, owing to their inability to sell at anything near the rates lately current on old. Tendency on Pinks and Bayos was to lower prices, and it is probable that market for colored varieties will incline against sellers for several months to come, as Bayos and Pinks constitute a liberal proportion of this year's crop, and there are considerable quantities of same kinds of last year's beans still in the hands of dealers. White varieties, as also Limas, are being in the main steadily held. Present supplies of white heans are largely Lady Washingtons, denominated in the East as Medium beans.

Pea, fair to good, 100 lbs	2 15	@2	25
Small White, good to choice	2 15	@2	20
Lady Washington	1 70	@1	80
Butter, small	3 75	@4	00
Butter, large	——	@—	
Pinks	2 20	@2	30
Bayos, good to choice	1 70	@1	80
Reds	3 75	@4	00
Red Kidneys	2 50	@2	75
Limas, good to choice	4 00	@4	15
Black-eye Beans	3 00	@3	25
Horse Beans	——	@—	
Garhanzos, large	2 75	@3	00
Garhanzos, small	1 60	@1	75

Advices by recent mail from New York City gives the following report of the hean market, prices quoted being per 60-lb. bushel:

If reliance can he placed in the crop reports the amount of Marrow heans raised this year will be small. The general belief that this will he the case is the chief support to the market at present, as both the export and home trades are very light. Some fancy marks are held a little higher than we quote, hut choice lots are selling mainly at $1.55. Another lot of 300,000 lbs of Small White heans was purchased early in the week hy the Government for shipment to the Porto Rico sufferers. This afforded some relief, hut the trade in other directions was very dull, and offers to sell new crop Michigan to arrive at a less price have kept the feeling rather easy. Best lots of both Medium and Pea are now offering at $1.37½, and a few sales have been made at $1.35. Demand for Red Kidney has been light all the week, hut there has been a steady holding of choice bright stock. Very little inquiry for White Kidney, and slow trading in Yellow Eye and Turtle Soup. Lima are just a shade easier; some holders still ask $2 80 on jobbing sales, others have accepted $2 77½ and a few lots have been closed out at $2.75. Limas are quiet at $2.75@2.80. Market lightly supplied with both green and Scotch peas, but the call for them at present is small.

Dried Peas.

Not many dried peas of any description in stock at present. Market is rather firm for choice Green or Blue, with good inquiry for the same. Niles peas are not being particularly sought after, and market for this sort cannot be said to be particularly favorable to sellers.

Green Peas, California	1 85	@2	00
Nilea Peas	1 65	@1	75

Wool.

There is little of interest to note in the local wool market, neither are tbere reports of much doing in eastern manufacturing centers. Trade here is not wholly stagnant, but it is so nearly so that it takes a very close observer to notice that there is trading in progress, so small is the volume. Sucb transfers as are effected are mainly scoured stock carried over from the spring season. If fall clip was in larger supply, permitting of shippers making up lines, there would probably be more business to record in grease wool. Most desirable fall fleeces are not likely to appear on market in noteworthy quantity for at least a month to come, and prospects are not encouraging for mucb business being transacted in the meantime. Quotable values remain nominally in same position as last stated.

SPRING.

Oregon Eastern, choice	12	@	14
Oregon Eastern, fair to good	10	@	12
Oregon Valley	15	@	17

FALL.

Humboldt and Mendocino	—@—		
Northern, free	—@—		
Southern Mountain	7½@	8½	
San Joaquin Plains	6½@	7½	
San Joaquin Lamb	8 @	9½	

Hops.

There is a very quiet market, and tbere is no firmness observable deserving of special mention. Most of tbe large dealers have contracts for all tbe hops they care to carry or or handle during the next few months. While quotations are nominally as before, wholesale buyers are not readily found at tbese figures. If Europe puts in an appearance as a purchaser, tbe market will be apt to develop more firmness. The next month or six weeks will likely reveal whether or not Europe will be a buyer of American hops to any appreciable extent this seaaon.

Good to choice, 1899 crop	10	@12½	

A New York authority publishes under recent date the following news concerning hops.

The shipments to Europe, which foot up nearly 110,000 hales from this port, were the heaviest ever recorded, exceeding the large figures of the previous year hy over 20,000 hales. Business on our local market has continued to drag heavily, and while holders have not forced sales they have not missed an opportunity to move goods when this could be done at reasonably near asking rates. The reported transactions show a lower range of values than heretofore quoted, and we revise our figures to conform to these conditions. Prices must be considered largely nominal, however. In this State picking is in progress and present indications point to less hops than last year; just what the shrinkage will be cannot he stated until after the crop is ent rely harvested. The condition of the crop in some sections was critical, hut a change in the weather checked the damaging effects of lice, and this week the yards look hetter. The early picking will undoubtedly give us some immature hops and we look for unusually mixed quality; some very nice lots are promised, and there will be some moldy growths. A few of the early hops sold in the country at from 13c for ordinary up to 16c for prime, a few growths going a little higher. Some contracts for the later crop are being made at 12@12½c. It looks as if early estimates of the Pacific coast yield will have to he increased, as reports from yards where picking is well under way are quite favorable. Estimates from England run from £250,000 to £300,000 old duty, hut the latter figure is probably too high.

Hay and Straw.

Much the same weak condition prevailed in tbe hay merket as was experienced for a fortnight or more preceding. Arrivals were steadily ahead of requirements, and for the ordinary run of offerings it was not as a rule an easy matter to aecure custom, even at the low rates ruling. A little strictly choice weat hay sold fairly well, all tbings considered, the proportion of offerings of this aort being light. Straw was in sufficient supply to enable buyers to operate to advantage, market being easy at previously quoted range of prices.

Wheat	7 00	@	9 00
Wheat and Oat	7 00	@	8 50
Oat	6 00	@	8 00
Barley	6 50	@	7 00
Alfalfa	5 00	@	7 50
Timothy	——	@—	
Compressed	8 00	@10	00
Straw, ₱ hale	25@		40

Millstuffs.

Bran and middlings were not in heavy receipt, nor were offerings urged to sale very freely. The market in consequence was fairly firm but not materially higher. Rolled barley and milled corn were in more than ample aupply for immediate necessities, and market presented an easy tone.

Bran, ₱ ton	15 50	@16	50
Middlings	18 00	@20	00
Shorts, Oregon	16 00	@17	00
Barley, Rolled	18 00	@18	50
Cornmeal	23 50	@24	00
Cracked Corn	24 50	@25	00

Seeds.

The market for yellow mustard is showing more firmneas, while prices for Trieste have heen tending against sellers, tbe latter variety being in very limited request at present. There is nothing of moment transpiring in otber seeds. The last Panama steamer carried ninety-three tons mustard seed for New York.

	Per ctl.		
Mustard, Trieste	3 15	@3	25
Mustard, Yellow	3 75	@—	
Flax	—@—		
	Per lb		
Canary	3½@4		
Rape	3 @4		
Hemp	4¼@4½		
Alfalfa, Utah	—@ —		

Bags and Bagging.

The season's business in grain bags is practically ended. While dealers quote unchanged values, huyers have no trouble in operating at concessions from full current figures. There is some movement in bean bags and fruit aacks, market for both showing steadiness.

Calcutta Grain Bags	7	@	7½
San Francisco Grain hags, 22x36, spot	7	@	7¼
State Prison bags, per 100	—@—		
Wool aacks, 4 lh	—@30		
Wool sacks, 3½ lb	—@27		
Gunnies	—@11½		
Bean hags	4¾@	5¼	
Fruit sacks, cotton	5½@	6¼	

Hides, Pelts and Tallow.

There are no heavy quantities coming forward of any description. Demand is very fair. Market is moderately firm at the ruling rates.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	10@10¼	9@ 9½
Medium Steers, 48 to 56 lhs	9@ 9¼	8@ 8½
Light Steers, under 48 lhs	—@ 9	—@ 8
Heavy Cow Hidea, over 50 lhs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lhs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lhs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per akin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per akin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best aummer	27½@	30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4½@	4¾
Tallow, No. 2	3¾@	4
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

The market remains unfavorable to the buying interest, and is likely to so continue throughout the season, with supplies of very moderate volume, not only here, but also in the interior.

Extracted, White Liquid	7½@	7¾	
Extracted, Light Amber	6½@	7	
White Comb, 1-₱ frames	11½@	12½	
Amber Comb	8	@10	

Beeswax.

Values are being well maintained, with supplies and offerings light. No trouble is experienced in securing buyers for desirable qualities.

Good to choice, light, ₱ lb	26	@27	
Dark	24	@25	

Live Stock and Meats.

Market for Beef is ruling quiet and a little easier, but there is no great excess of offerings, and not likely to he for some time to come. Mutton is without appreciable change, demand being fair at prevailing rates. Lamb and Veal command good prices, offerings being very limited. Hogs from points in tbis State were in light aupply, but there were tolerably free receipts from tbe Territories and points East, and in consequence the market was not strong at the current prices, which are too bigb for packers.

Beef, 1st uality, dressed, net ₱ lh	7¾@	8	
Beef, 2d quality	7	@ 7½	
Beef, 3d quality	6	@ 6½	
Mutton—ewea, 6½@7c; wethers	7	@ 7¾	
Hogs, hard gratn fed, medium	5⅝@	5¾	
Hogs, small, fat	5⅝@	5¾	
Hogs, large hard	5½@	5¼	
Hogs, acorn-fed	— @—		
Hogs, feeders	5 @	5½	
Hogs, country dressed	5¾@	6	
Veal, small, ₱ lh	9 @11		
Veal, large, ₱ lh	8 @	8½	
Lamb, spring, ₱ lb	8½@—		

Poultry.

Most kinds met with a rather weak market from same cause previously noted, viz., too heavy receipts of Eastern, five to six carloads per week coming forward. Turkeys inclined a little in favor of sellers, and Broilers were in fair request within range of $2.50@3 00 per doz., but with these exceptions the market for the ordinary run of offerings dragged at a generally iow range of values.

Turkeys, young, ₱ ₱	16	@	18
Turkeys, live hens, ₱ lh	14	@	15
Turkeys, live gobblers	14	@	15
Hens, Cal., ₱ doz	3 50	@5	00

Roosters, old	4 00	@4 25
Roosters, young, (full-grown)	3 50	@4 50
Fryers	3 00	@3 50
Broilers, large	2 50	@3 00
Broilers, small	2 50	@3 00
Ducks, ₱ doz	3 50	@5 00
Geese, ₱ pair	1 50	@1 75
Goslings, ₱ pair	1 50	@2 00
Pigeons, Old, ₱ doz	1 50	@1 75
Pigeons, Young	1 50	@1 75

Butter.

Owing to a large portion of the trade having been diverted from fresh butter to packed descriptions, the market for fresh is weak, having been since last review still less favorable to sellers than quoted in former issue. Only a few favorite marks are meeting with any noteworthy demand. Occasional sales of these are made above quotable rates.

Creamery extras, ₱ lb	26	@—
Creamery firsts	25	@—
Creamery seconds	24	@—
Dairy select	24	@—
Dairy seconds	20	@22½
Dairy, soft and weedy	—	@—
Mixed store	14	@16
Creamery in tubs	18	@20
Pickled Roll	18	@20
Firkin, Cal., choice to select	18	@20
Firkin, common to fair	15	@16

Cheese.

There are no changes to record in quotations, hut for other than select new, just a few weeks from the press and sought after by a large class of local consumers, the market is not firm at the figures current. Supplies of cheese which have been on the shelves for two or three months are more than ample for immediate requirements.

California fancy flat, new	11	@—
California, good to choice	10	@10½
California, fair to good	9	@ 9½
California Cheddar	—@—	
California, "Young Americas"	10	@12

Eggs.

Although there are no large arrivals of select fresh from near-by points, the advanced figures of the previous week caused a material decrease in the demand for such stock, and market has not ruled quite so strong as last noted. Extra fancy bring a moderate advance on quotations. Stocks of Eastern and local sold storage eggs are liberal, with market for same easy.

California, select, large white and fresh	30	@—
California, select, irregular color & size	25	@29
California, good to choice store	20	@24
Eastern, as to section and grading	17	@23
Eastern, cold storage	—	@—

Vegetables.

Supplies of most kinds in season were large, and the market in the main was quite favorable to buyers. Corn and Tomatoes were especially in heavy supply. Although Onions were in less active request than for a week or two preceding, prices did not recede materially.

Asparagus, fancy, ₱ box	—@	—
Asparagus, No. 1, ₱ box	—@	—
Asparagus, common to fair, ₱ box	—@	—
Beans, Wax, ₱ lb	1½@	2½
Beans, String, ₱ lb	1½@	2½
Beans, Lima, ₱ lb	1½@	2½
Cabbage, choice garden, ₱ 100	50@	60
Cauliflower, ₱ doz	50@	—
Corn, Alameda, ₱ crate	50@	90
Corn, Green, ₱ sack	25@	75
Corn, Berkeley, ₱ crate	30@	60
Cucumbers, Alameda, ₱ large box	25@	50
Cucumbers, ₱ small box	—@	—
Egg Plant, ₱ box	30@	60
Garlic, new, ₱ lb	2@	3
Mushrooms, Buttons, ₱ lb	—@	—
Mushrooms, wild, ₱ box	—@	—
Okra, Green, ₱ box	30@	60
Onions, Yellow, good to choice, cental	75@	85
Onions, New Red, ₱ cental	—@	—
Peas, Sweet, Garden, ₱ lb	3@	4
Peas, common, ₱ lb	1½@	2½
Peppers, Green Chile, ₱ box	25@	40
Peppers, Bell, ₱ large box	35@	50
Pickles, small, ₱ cental	1 50@	1 75
Pickles, No. 2, ₱ cental	75@	1 00
Rhubarb, ₱ box	—@	—
Squash, Bay, ₱ large box	—@	—
Squash, Marrowfat, ₱ ton	8 00@	10 00
Squash, Summer, ₱ box	25@	40
Tomatoes, River, ₱ box	20@	35
Tomatoes, Bay, ₱ box	40@	60

Potatoes.

There was a little easier tone for potatoes, receipts showing some increase and the demand being hardly so active as preceding week. Offerings were mostly Sacramento River Burbanks. Sweets were in better supply than preceding week, but continued to bring tolerably good figures.

Burbanks, River, ₱ cental	60 @	85
Burbanks, Bay counties, ₱ ctl	— @	—
Burbanks, Humboldt	— @	—
River Reds	90 @	1 00
Early Rose	70 @	80
Garnet Chile	75 @	90
Burbanks, Salinas, ₱ cental	1 00 @	1 15
Sweet River, ₱ cental	1 75 @	2 25
Sweet Merced	2 00 @	2 50

The Fruit Market.

Fresh Fruits.

The display of midsummer fruits is on the wane, and is likely to decrease rapidly from this time forward. Choice to select qualities of nearly every variety are in limited stock, and this feature of the market is apt to be still more pronounced in the near future. Apples are in fair supply, but it is the exception where the quality is such as dealers and consumers are particularly anxious to secure Strictly fancy Apples, packed four tiers to the box, are more readily salable at highest quotations than is some of the most ordinary stock at the lowest figures below noted. Peaches are not arriving in heavy quantity, and a considerable proportion of those now coming forward are over-ripe, which is to be expected at this date. For best qualities, especially for desirable shipping stock, market is firm at the quotations. Much the same remarks noted on Peaches apply to Bartlett Pears. Thoroughly sound and in every respect choice Bartletts are scarce and sought after, but of common, over-ripe and otherwise defective fruit there is entirely too much. Plums and Prunes are meeting with moderate custom at much the same rates as were current for a week or two preceding. A few special varieties of Plums, particularly desirable for size and flavor, brought an advance on quotable rates. Grapes of most kinds in season were in good supply and situation in the main favored buyers, although choice Isabellas and Seedless met with a tolerably firm market. Figs were not plentiful, neither was the demand for them brisk. Pomegranates are now arriving, and are offering within range of prices below quoted, with inquiry only moderate. The melon market was well stocked, and prices remained at a low range. Berries of the various kinds in season went at much the same figures as last quoted, demand being rather slow.

Apricots, good to choice Royal, ₱ ton	—@	—
Apricots, Royal, ₱ box	—@	—
Apricots, Pringle, ₱ box	—@	—
Apples, fancy, ₱ 50-lb. box	—@	—
Apples, fancy, 4-tier box	1 00@	1 25
Apples, good to choice, ₱ 50-lb. box	75@	90
Apples, Green, common to fair, ₱ 50-lb. box	25@	50
Blackberries, ₱ chest	3 00@	4 50
Cantaloupes, ₱ crate	50@	1 00
Cantaloupes, Nutmeg, ₱ crate	25@	50
Cherries, Black, ₱ box	—@	—
Cherries, Red, ₱ box	—@	—
Cherries, Royal Anne, ₱ box	—@	—
Cherries, White, ₱ box	—@	—
Crabapples, ₱ small box	35@	60
Currants, ₱ chest	—@	—
Figs, Black, 2-tier box	50@	75
Figs, White, ₱ box	30@	60
Gooseberries, ₱ lb	—@	—
Gooseberries, ₱ 10-lb box	—@	—
Grapes, Black, ₱ crate	35@	60
Grapes, Fontainebleau, ₱ crate	—@	—
Grapes, Muscat, ₱ crate	40@	60
Grapes, Tokay, ₱ box, 30@50c; ₱ crate	40@	60
Grapes, Seedless, ₱ box, 70@80; ₱ crate	75@	90
Grapes, Isabella, @ crate	75@	90
Logan Berries, ₱ chest	—@	—
Nectarines, Red, ₱ box	—@	—
Nectarines, White, ₱ box	—@	—
Peaches, fancy wrapped, ₱ box	75@	90
Peaches, ₱ box	30@	75
Pears, Bartlett, No. 1 to choice, ₱ ton	35 00@	50 00
Peaches, Clingstone, ₱ ton	20 00@	30 00
Peaches, Freestone, ₱ ton	20 00@	30 00
Pears, Bartlett, ₱ 40-lb. box, wrapped	75@	1 50
Pears, common, ₱ basket	25@	50
Pears, ordinary, ₱ box	25@	60
Plums, large, ₱ ton	15 00@	20 00
Plums, large, ₱ crate	40@	65
Plums, ₱ box	25@	50
Plums, Cherry, ₱ drawer	—@	—
Pomegranates, ₱ box	75@	1 50
Raspberries, ₱ crate	—@	—
Raspberries, ₱ chest	3 00@	5 00
Strawberries, Longworth, ₱ chest	6 00@	7 00
Strawberries, Large, ₱ chest	3 00@	4 00
Watermelons, ₱ 100	5 00@	20 00
Whortleberries, ₱ lb	2½@	4

Dried Fruits.

While the market for cured and evaporated fruits is far from being in satisfactory shape throughout for the producing interest, it is not in such thoroughly demoralized state as some recent accounts attempted to depict as existing or as likely to be very soon experienced. Especially have Peaches been made to suffer at the hands of reviewers working in the interests of bears. One might have gotten the impression from some of the reports that Peaches would be wholly lacking for custom before this date. But the market is in little if any worse shape than a week ago, and the weakness which exists is confined largely to common qualities or poorly graded stock. Some Eastern deliveries are being turned down, but this is the fault of shippers and could be avoided. It was common at one time for certain lines of Eastern goods to be turned down in this market, but it does not happen so frequently now, for the reason that most shippers have arranged to prevent such action. Shippers of dried fruits and other products from this coast could and should arrange to prevent the breaking of values by this turning down process, or rejecting deliveries on a weak market, frequently with the sole object of buying the goods in at a lower figure. It is no trick at all to be able to find fault with deliveries when buyers see fit to do so. They never elect, however, to make rejections on an advancing or firm market. There are buyers who do not resort to such schemes, but there are many of the other sort. Some would reject double eagles as a tender for $20 if they could make a copper by so doing. The Prune market is weak and slow for new, with stocks of old not yet wholly cleaned up. The weakness is more especially pronounced on the medium sizes, or 60's to 90's, which show a quotable reduction in price of about ¼c, while values for the large and small Prunes remain practically unchanged. Apricots and fancy Pears continue to be firmly held, with stocks light. Apples are ruling fairly steady, as are also Plums. Figs are meeting with fair custom at unchanged rates.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10	@12
Apricots, Royal, fancy	12	@13
Apricots, Moorpark	13	@15
Apples, in 50-lb. boxes, rings, pressed, fancy	7	@ 7½
Apples, 50-lb. boxes, rings, pressed, good to choice	6½	@ 7
Figs, White, fancy pressed	8	@ 8½
Peaches, unpeeled, good to choice	4½	@ 5½
Peaches, unpeeled, fancy	6½	@ 7½
Peaches, peeled, in boxes	—@—	
Pears, unpeeled Bartletts, halved, fancy	10	@11
Pears, halved, unpeeled Bartletts	8	@ 9
Pears, quartered, unpeeled Bartletts	7½	@ 8½
Plums, pitted	5	@ 6
Prunes, in sacks, 40—50's	4½	@ 4¾
50—60's	3¾	@ 4
60—70's	3¼	@ 3½
70—80's	2¾	@ 3
80—90's	2¼	@ 2½
90—100's	1¾	@ 2
110—130's	1¼	@ 1¾
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.		
4 sizes Santa Claras and equal	3	@—
4 sizes San Joaquin and Northern	2½	@ 2¾
Prunes, Silver	4	@ 7

COMMON SUN-DRIED.

Apples, sliced	4	@ 5
Apples, quartered	4	@ 5
Figs, Black	2	@ 3
Figs, White	—@—	
Peaches, unpeeled	—@—	

Recent advices by mail from New York City furnish the following review of the dried fruit market:

The few small lots of evaporated apples arriving are meeting a light jobbing demand at rather high prices, but receivers are inclined to meet buyers on all early made fruit, which from its character will command no more by holding. Crop reports are unfavorable and conflicting, but it is believed that the quantity of apples evaporated will be much larger than anticipated earlier in the season, and futures are steadily declining, strictly prime wood-dried having sold for October and November delivery at as low as 6¾c, and free offers at 7c fail to attract attention. The few old evaporated apples left show such poor quality that they fail to be a factor of importance on the market; present quotations are to a great extent nominal, not only for evaporated but sundried and other apples, owing to the limited offerings. Chops are quoted 2@2½c for future delivery, and cores and skins 1½@1¾c, with small spot sales of unimportant lots making at those figures. There is a little more pressure to move raspberries, and 11½c is full high. Huckleberries scarce and wanted, with occasional sales above top quotation. Blackberries quite plenty and weak, but meeting a fair demand. Not many cherries offering. California apricots and peaches are rather slow, but arrivals are not heavy.

Apricots, Cal. Moorpark, 1899, per lb	14	@16
Apricots, Cal. Royal, 1899, per lb	12	@13
Peaches, Cal., 1899, unpeeled, in boxs. lb	7¾	@9
Peaches, Cal., 1899, unpeeled, in bags, lb	8	@ 8½
Prunes, Cal., 1898, per lb	3	@ 8

Raisins.

With last year's product now virtually out of first hands, and prices for coming pack yet to be named, there is little or nothing to be said, other than that the outlook is bright for a good market for this year's yield, which promises to be of comparatively light volume.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—@—	
Dehesa Clusters, per box	—@—	
Fancy Clusters, per box	—@—	
London layers, 3-crown, 20-lb box	—@1	20
London layers, 2-crown, 20-lb box	—@1	10
Valencia layers, ₱ 20-lb box	80@1	00
(Usual advance for fractions.)		
Loose Muscatel, 4-crown, ₱ lb	5¼@5¾	
Loose Muscatel, 3-crown	4¼@4¾	
Loose Muscatel, 2-crown	—@—	
Loose Muscatel, ungraded	—@—	
Sultanas, unbleached	—@—	
Seedless Muscatel	—@—	
Thompson's Seedless, unbleached	—@6	
(Above prices for loose raisins are for 50-lb boxes.)		
Dried Grapes	2⅛@2¾	

Citrus Fruits.

A few late Valencia Oranges are being held at $4 per box. Lemon market is without appreciable change. Stocks of common qualities are liberal. For thoroughly sound and well cured Lemons the market is moderately firm at ruling rates. Limes are in light supply and higher.

Lemons—Cal., select, ₱ box	2 75@	3 25
Cal., good to choice	1 75@	2 50
Cal., common to good	1 00@	1 75
Limes—Mexican, ₱ box	7 00@	7 50
Cal., small box	—@	—

Nuts.

Almond market is firm on basis of 9½c for Languedocs, 11½c for I X L's and Ne Plus Ultras and 12½c for Non Pareils in carloads at primary points. There is a good demand. It is estimated the crop will not exceed 175 carloads. Prices for Walnuts have not yet been fixed. Peanuts are very scarce.

California Almonds, paper shell, ₱ lb	11	@13
California Almonds, soft shell	8	@10
California Almonds, hard shell	7	@ 8
California Almonds, shelled	—	@—
Walnuts White, paper shell	—	@—
Walnuts White, soft shell	—	@—
Walnuts White, Cal., standard	9	@10
Chestnuts, Cal. Italian	—	@—
Peanuts, Cal., fair to prime	5½	@ 6½
Peanuts, Eastern hand-picked	6½	@ 7½
Pine Nuts	5	@ 8

Wine.

The local market remains in all essential respects in same condition as previously noted. Trade is of a light order, so far as business from first hands is concerned, which is invariably the case at this time of year. There is not much offering from growers, neither is there any special inquiry in a wholesale way. The quotable range on Claret is 15@20c. per gallon, as to quality, quantity, etc. The outward movement continues of fair proportions. The Panama steamer sailing on 9th inst. took 121,959 gallons and twelve cases wine, mostly destined for New York.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

California Dried Fruit at New York.

NEW YORK, Sept. 13.—California dried fruits: Market quiet and steady. Evaporated apples, common, 7@7½c; prime wire tray, 8¼@8½c; choice, 8¾@9c; fancy, 9¼@9½c.
Prunes, 3½@8c.
Apricots, Royal, 14@—c; Moorpark, 15@16c.
Peaches, unpeeled, 8@11½c; peeled, —@—c



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Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	104,326	1,124,398	902,383
Wheat, ctls	87,529	849,372	702,139
Barley, ctls	177,104	1,702,357	257,995
Oats, ctls	13,180	157,142	90,780
Corn ctls	1,895	23 660	28,035
Rye, ctls	10,451	55,797	3,845
Beans, sks	3,411	36,489	51,446
Potatoes, sks	21,281	200,212	201,718
Onions, sks	3,814	51,774	47,837
Hay, tons	4,863	41,111	41,048
Wool, bales	1,012	15,275	12,721
Hops, bales	201	1,004	1,755

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	92,420	649,631	608,028
Wheat, ctls	144,360	720,225	425,811
Barley, ctls	197,033	1,368,460	50,047
Oats, ctls	2,663	11,392	4,597
Corn, ctls	488	3,819	3,364
Beans, sks	475	4,112	15,188
Hay, bales	3,125	21,939	6,726
Wool, lbs	47,985	75,991	587,901
Hops, lbs	133,829	149,830	346,816
Honey, cases	6	1,390	1,171
Potatoes, pkgs	2,947	12,692	9,812

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PATENTS



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PATENT AGENTS,
330 Market Street, San Francisco, Cal.

Patrons of Husbandry.

The Coming State Grange Meeting.

The annual session of the California State Grange convenes at Napa, October 3rd. The following extracts are made from a letter by W. W. Greer, Worthy Master:

The twenty-seventh session of the California State Grange will be held in the city of Napa, commencing Tuesday, October 3rd, and continuing four days, or until the labors of the session are finished. The usual reduced rates will be given by the railroad companies, namely, a fare and one-third for round trip, and certificates will be furnished in time for use of attendant, either delegate or visitor, giving full directions about purchasing tickets. The citizens of Napa and vicinity will assist the local Grange in the reception and entertainment of all visitors. All members of the Order are invited to attend. Ample accommodations have been secured and special rates obtained from hotels, restaurants and lodging houses for delegates and visitors. Delegates will be given first preference, and all who desire may apply in advance by addressing William G. Thompson, Napa.

The Feast of Pomona will, the same as last year, be a State as well as a local affair, and Granges or members of the Order are solicited to contribute specimens of the orchard and field. Said contributions should be sent to H. F. Blohm, Napa, to arrive not later than noon Thursday, October 5th. A list of contributors and articles contributed will be kept and published in the Journal of Proceedings.

The State Grange will convene at 11 A. M. Tuesday, October 3rd, at I. O. O. F. Hall, and open in due form.

Tuesday Afternoon—Reading of reports of officers of the State Grange, regular and special deputies, Masters of Pomona and subordinate Granges, and calling the roll of Pomona and subordinate Granges for the introduction of business and reference of same to appropriate committees.

Tuesday Evening—A public reception will be tendered the delegates and visiting members at the pavilion by the citizens of Napa.

Wednesday Forenoon—Continuation of Tuesday's programme.

Wednesday Afternoon — The delegates and visitors will be shown the different points of interest in Napa and vicinity by the Grangers and citizens.

Wednesday Evening — Appointment of remaining committees, special literary and musical exercises, exemplification of unwritten work, discussion of degree work, introduction of business and partial report of Committee on Division of Labor.

Thursday Forenoon and Afternoon—General business.

Thursday Evening — Conferring of degrees and Feast of Pomona at Turner Hall, the feast to be followed by a social hop.

Friday—Consideration of reports of special and standing committees.

Friday Evening—Memorial exercises and installation and general discussion concerning work in subordinate Granges.

The San Jose Grange and Irrigation Propositions.

The question of the redemption of the arid region by irrigation reservoirs constructed by the National Government was taken up and discussed at the last meeting of San Jose Grange and reported by the *Mercury* as follows:

G. W. Worthen was the first speaker. He objected to the stand taken by the National Grange on the question which was that to open up so large a section for production would increase the production to such an extent as to be a detriment to the producer of the present time. He thought this a narrow stand. He said: "On this there seems to be a short and a short-sighted policy. Looking at it broadly, I would say that the people who would settle in the arid regions would at first require food which would have to be supplied by the present producers. A market is also opening out west of us in the Philippines, China and Southern Africa.

"There is no danger of a glut in the market for any great length of time. The present conditions of the prune market will not long remain as it is. The economy of nature is that where there is a need there is always a movement to supply it. It is so even now. Our army and navy is already creating a broader market, and it is in accord with the same great law of economy that a counter movement be taken to increase the supply."

S. P. Sanders spoke in favor of the National Government taking in hand the task of constructing the reservoirs at the headwaters of the great streams for the purpose of impounding the surplus waters for irrigation and also saving the country in the lower reaches of the streams from the very great destruction to which they are now so often subjected. He was also in favor of the Government merely leasing these lands to settlers, to be retained by them and their children so long as they wished to occupy them, but letting the title remain in the hands of the General Government that the lands might always remain in the hands of the tiller and not pass into the possession of the speculator.

Major Dunn said that in his opinion there was no such thing as overproduction if, while we aim to increase the area of production, we likewise look to a corresponding enlargement of the market. He did not think that those things governed themselves without a little wise direction.

Judge Hurlbert said that the population of the country was increasing at the rate of 2% per annum, and at that rate doubling itself in half a century. In view of this fact he thought there was no danger of overproduction, even if every foot of available land was placed under cultivation. Such a large enterprise as building storage reservoirs should be under the direction of the National Government, as it would be almost impossible for them to be carried to success by private capital. Said he: "It will only be loaning the money to the people, for it will all come back to the Government." He thought that it might perhaps be a good idea for the Government to lease the lands instead of selling them if they and their children were allowed to keep them as long as they would reside on them. "I believe," said he, "that the question should be agitated until Congress takes up the matter."

J. Bettinger spoke of how much had already been done in the opening up of the arid region. In 1871, when he came across the plains, it was almost a barren waste; now it was settled with thriving and populous cities and villages. This has not militated against the interests of the farmer, nor will the further opening up of this great territory be against, but for the interests of all.

At the close of the discussion the following resolutions were introduced by S. P. Sanders, and adopted as the sense of the Grange:

"*Resolved*, By the San Jose Grange, Patrons of Husbandry, that it is the sense of the Grange that we are in hearty accord with the sentiment as expressed by the so-called Irrigation Congress in the circular entitled 'Annex Arid America,' which advocates construction by the National Government of storage reservoirs and the reforesting of the country about the headwaters of the great rivers, to the end that arid America may be by means of irrigation brought under profitable cultivation and save the lands along the lower reaches of the rivers from destructive inundation.

"And further be it resolved, that we would approve the passage of laws that would secure to the settlers on such reclaimed land possessary title to the same forever as tenants of the National Government."

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365 Days a Year.

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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING AUGUST 29, 1899.

631,922.—BIT STOCK—W. L. Baumgardner, Watsonville, Cal.
632,098.—MACHINE GUN—E. M. Capps, San Diego, Cal.
632,044.—EGG BEATER—S. E. Chapman, Napa, Cal.
631,952.—VAPORIZER—M. L. Cooper, Modesto, Cal.
631,847.—RAILROAD TRACK CLEANER—Dart & McMurry, Seattle, Wash.
[illegible],110.—RUBBER CEMENT—M. B. Grout, North Yakima, Wash.
[illegible],890.—MONUMENT—W. A. Hawthorne, Chittenden, Cal.
[illegible],126.—DREDGER—P. Kirk, Kirkland, Wash.
[illegible],128.—WATCH PLATE—E. Krahenbubl, San Rafael, Cal.
632,222.—BOX—V. M. Malatesta, S. F.
[illegible],194.—ELEVATOR—A. W. Morey, Owyhee, Ogn.
631,939.—ENVELOPE—Nellie P. Packard, Centralia, Wash.
[illegible]32,227.—HAMMER—C. E. Perry, S. F.
631,968.—FIRE ESCAPE—D. B. Rees, Union, Ogn.
631,835.—SHOE JACK—H. Waters, Bisbee, A. T.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

MORTUARY MONUMENT.—W. A. Hawthorne, Chittenden, Cal. No. 631,890. Dated Aug. 29, 1899. This invention relates to a device for indicating the last resting place of deceased individuals, and a means connected therewith for containing the ashes of the deceased person when cremation has taken place. It may also be so arranged as to exhibit a counterfeit presentment of the face or figure of the person of the deceased. It consists of a base having a vertical tubular standard supported thereon, and tubular arms connected with the upper end of the standard having end caps adapted to receive medallions, the tubular portion also serving as a container for the ashes when desired.

VAPORIZOR.—M. L. Cooper, Modesto, Cal. No. 631,952. Dated Aug. 29, 1899. The object of this invention is to provide an apparatus for heating air and to vaporize such substances as it may be desired to apply or distribute in such a condition. It consists of a hollow casing with inlet and outlet pipes and a closed chamber with partitions, forming a sinuous passage through which the air is transmitted, a heater beneath said chamber; a flexible, non-conducting conveying pipe, through which the heated air is transmitted to the point of application, a holder connected therewith and nozzles applicable to the end of the holder, with an interposed non-conducting section to prevent the heating of the holder.

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"JAMESIE," said the severe faced woman, "do you know where little boys go who smoke cigarettes."

"Yes'm; us fellers always goes out back of the barn."

Breeders' Directory.

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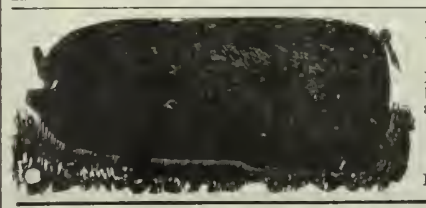
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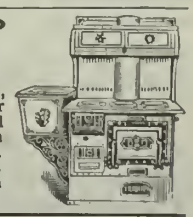
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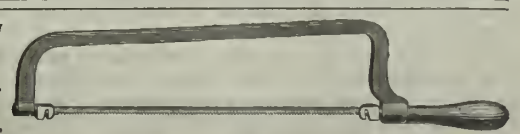
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FRUIT MARKETING.

American Fruits in the Orient.

Numerous inquiries have been made of A. Burlingame Johnson, Consul at Amoy, by manufacturers and dealers in fruits as to the condition of the crop there in China, the prospects for selling orchard products, the size of packages preferred, manner of packing, etc. Through the Consular Reports, Mr. Johnson gives this reply:

"The condition of the fruit crop in China has little or no effect upon the importation. The tropical fruits do not come into competition with the product of the United States; and in the more northern districts, where northern fruits might be grown, the quality of the products, owing to the ignorance or indifference of the people, places them outside the pale of competition with good fruits.

"The only exception to this rule, possibly, consists of grapes grown in the north of China, some varieties of which are excellent.

"There is a steadily increasing demand among the natives for foreign fruits, whether canned, dried, or preserved. The European population look to these imported fruits almost exclusively to supply their tables. Tinned pears, peaches, and apricots come principally from America, while preserved fruits, jams, and dried fruits still come largely from Europe. The reason is apparent. The American manufacturer will not, or does not, meet the conditions required. Since there are no peaches or pears in Europe which can compete with those from California, the oriental merchant has no choice; in other lines he is not so restricted. Prunes and raisins are largely used. The dried fruit is put up in bottles and sealed. In no other way can it be shipped to the tropics without great loss, as the humidity of the climate or insects will soon render it unsalable. No fruits, biscuits, crackers, or any other food product can be safely shipped to central or southern China or the Philippine Islands without being sealed in glass bottles or tinned. The English and continental merchants and manufacturers understand this, and put up their fruits accordingly. If tinned, the tins are either painted or varnished to prevent rust and consequent loss to the merchant.

"The American manufacturer has found a market for his product without these extra expenses, and is slow to meet the demand; hence dried fruits, jams and tinned fruits are usually bought in other countries, where these necessary details are looked after.

"American oatmeal finds little market here except via England, where it is put up in tin boxes of two to four pounds each.

"If our exporters of fruit expect to hold the market in the Philippines, or to gain a better footing in China, they should begin by studying the conditions and promptly meeting them.

"Prices realized in China for fruits justify the expense necessary to put them up so as to insure their being in good condition when they reach the consumer."

California Fruits at the East.

T. W. Madeley of Sacramento has received a personal letter from W. B. Gester, formerly of Newcastle but now in Buffalo, N. Y., concerning Eastern conditions and California products as they reach the East. Mr. Gester writes from Buffalo under date of September 1:

As we divide the seasons in this part of the country, the summer months are gone and the fall months are with us. With a long and very unusual drought, the word "fall" as applied to August would have been no misnomer this year. The yearly rainfall, including the precipitation of last winter, has been away below average. All vegetation has shown the effect of lack of moisture, usually so abundant and well distributed. Truck gardens are badly hurt. Artificial irrigation would have save thousands of dollars. Orchard and forest trees make very manifest their mal-nutrition. Leaves have come to the "sere and yellow" and have fallen in greater quantity than I have ever noticed at this time of year. I do not see how the unusual drought can help affecting the fruit crops, both of this year and next. This is, of course, matter of some moment to us in California. Lack of full crops of local fruit may mean heavier profits to the Pacific coast grower. Not, however, unless he will take to heart the admonition that he has had thrown at him in ways both advisory and practical for I don't know how many years. Never were prospects brighter than at the beginning of this season. There is no need of going over the ground. You know what conditions were. In spite of advice, in spite of past experience, California began throwing into the Eastern markets the most contemptible lot of stuff I ever saw in my life. It brought nothing itself, and it killed the market for the honest shippers who tried to keep up their reputation and that of the State of California. The market will not recover this year. The perfectly foolish tactics of Californians this season will hurt them for years to come. I know what consumers think. I know what dealers say. I have been on the ground to catch it all. What is more, I think the malediction of the consumer and Eastern dealer more than warranted by conditions. We talk of the poverty of the average grower. He deserves it for such folly. Knowing himself, as he must, I do not wonder that he is suspicious of his fellow growers, and that, therefore, combination (a possible cure) is seemingly so impossible.

The Prune Situation.

We gave in last week's PACIFIC RURAL PRESS an outline of the proceedings of the prune growers' meeting at San Jose. Col. Hersey has since prepared a statement for the *Tree and Vine* which gives in detail the attitude of the Exchange toward holding fruit for growers so as to relieve the present pressure to sell. He says:

Persons having less than two tons of fruit will be charged nothing this year. Exchange stock is $10 per share. It has been decided not to take subscriptions of less than three shares, or $30. Persons depositing fruit, over two tons or so, are expected to subscribe for stock at the rate of about $6 per ton of fruit. One who has ten tons of prunes should subscribe for six shares of stock. This stock will be paid for when the fruit is sold. This stock draws a regular dividend of 6%, no more, no less. All other dividends are on the basis of the amount of fruit deposited. The Exchange handled 8,000,000 pounds of fruit last year and can handle 20,000,000 pounds this year. A new wharehouse 80x108 feet, with three storage floors, and having immense strength, fireproof window shutters, an 80 H. P. steam boiler and new machinery for processing and packing is about ready for use. The larger packers act in harmony with the Exchange. Its moral power in controlling prices is as great as it possibly can be, but not absolute until it controls at least three-fourths the output. Sorosis Fruit Co. can also store fruit and will make advances. Every indication of supply and demand points to at least the price named in the resolution, 3½ cents for the four sizes. The various Union's operating drying grounds co-operate closely with the Exchange.

The Crop.—The *Tree and Vine* also says: The indication is that the total crop is slightly in excess of last year; that small sizes will be lacking, and that contracts should be made providing for this deficiency. Indications point to an understanding among buyers that by concert of action they will be able to get the advantage of the unorganized growers, and keep prices down until they have secured all they wish, when, of course, they would not object to a rise.

Dipped Raisins.

T. C. White, of Fresno, during a trip to Woodland in the interest of the Raisin Association, secured the following formula from J. C. Williams for dipping grapes. It has been used very successfully for the last fifteen years by Mr. Williams and by Bidwell and Howard. The dip is used on Thompson's Seedless and Sultanas. The formula is as follows:

To commence: The picking should be done in boxes and the grapes hauled to a stubble field or some roadway where there is room to spread them out. A trough should be made somewhat larger than two trays and about 6 inches deep, or deep enough to cover the grapes on sieves made in the shape of trays to allow the water to drain off. Of course, the sieves should be wire bottom, and while one is being dipped the other can be allowed to drain and a tray put on top and turned over grapes arranged properly and carried to field; the whole outfit can be moved from day to day, so as not to walk too great a distance, but a little experience will govern all these things. The bunches are cut apart before dipping and spread on dipping tray. Some tear the bunches apart, saying it is quicker. Either way has the same result. The trays may be filled sufficient or about same as for undipped.

Grapes dipped, dry two or three days quicker than undipped, and the cost of dipping is near ¼c per pound of raisins. The process is quite simple, yet it must be followed closely to give good results.

Get fifteen pounds of carbonate of soda ("Hammer" brand being the best, although it costs a little more), to forty gallons of water, and boil for a couple of hours in the field; keep the pot close to the dipping trough, so it can be poured in without much labor. The next day use only one-half the amount of soda and make new soda about every three days and change water, but keep one-half bucket or so of old to go with it. Also add about two ounces of lye to the dip—no more, because lye is too strong and with much more the grapes would stick to the tray. Get also Lucca olive oil, which costs about $2.25 per gallon. Don't use cottonseed oil. Although much cheaper it becomes rancid, and you can afterwards smell it on the raisins, and it should be used so that one gallon of oil will do about one ton of raisins, so it is quite easy to calculate. Pour oil in the dipping tray, not in the pot, about one pint first, and then heat the water up, and in the early morning have it as hot as you can stand it. The oil is then, throughout the day, put in on top of the water in one-half cupful at a time, and as it floats on the water is easily seen. During the day the water need not be boiling, only just above lukewarm, but in the morning the grapes being cold, will soon cool the water. A little experience will tell you when you have oil enough.

It takes four men at the dipping trough. Put grapes in "dip" and let stand until saturated, then, after five or ten seconds, pull up and put a couple of sticks under and let drain and go after another trap. Then place one tray on top and turn over. Spread out and carry to dry ground, and now you have all that is in bleaching, and if you followed, with a little experience you cannot miss it.

NOTES.—You can concentrate the soda and water if you want to, when boiling first, and add hot water afterwards. What does the bleaching is the oil and sunlight. It has some peculiar effect on grapes by drawing the heat. The soda is for the purpose of cutting the bloom on the grapes; lye would be too strong. The rest of the curing is done in the same manner as usual with Sultanas. The same bleaching process applies to Thompson Seedless, only that twice the quantity of lye is required.

IN Arkansas the apple is a general failure except in the northwest section, and they are of a very poor quality, and the crop will be much below the average. In Missouri, the report is that apples are dropping badly as a result of the drouth and hot sun, and many correspondents report that very few sound apples will be gathered.

Grain Harvests and Outlook.

WASHINGTON, Sept. 12.—The September report of the Statistical Department of Agriculture shows the following averages of conditions on Sept. 1st:

Corn, 82.5; wheat, 70.9; oats, 87.2; buckwheat, 75.2; potatoes, 86.3; barley, 86.7.

The condition of winter and spring wheat consolidated is 70 9 as compared with 86.7 on Sept. 1, 1898; 85 7 at the corresponding date in 1897, and 82.5 the mean of the September averages for the last ten years. The conditions of the first of the present month was the lowest September condition in twenty years. The reports from the principal winter States are, with the exception of Kansas and Missouri, slightly better than on July 1st; but in the spring wheat States there has been a decline of three points in North Dakota, two in South Dakota, twelve in Minnesota, sixteen in Iowa and eleven in Nebraska. The Department will make no quantitive estimate of the wheat crop pending a revision of the acreage in the Northwest and on the Pacific slope.



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Cheerfulness.

Perhaps there is nothing that adds more to the happiness of a home than the habit of cheerfulness. It is a potent factor in the secret of housekeeping, and the housewife who has always a pleasant smile and a soothing word has already acquired one of the most valuable accomplishments. As long ago as the days of the wise men a merry countenance had its recognized value. It is a duty of be pleasant. Yet how many neglect this important requirement. Some women are constitutionally cross and morose; others are weak and nervous, and are made fretful by the exactions of their household cares. But there is no excuse for much of the friction that exists in many households. I have been in some where the atmosphere seemed actually to bristle with hostilities. Everybody was in a fret, and frowns and cross words were the rule and not the exception. How uncomfortable life in such a home must be to the inmates, as well as to the passing guests. One learns to shun such homes as one would a pest house.

All women cannot be beautiful, but it is the duty of every woman to look as well as she can, and nothing adds more to a woman's good looks than a cheerful countenance. 'I have always,' said the good Vicar of Wakefield, 'been an admirer of happy human faces.' The sentiment is universal. The pleasure thus derived compensates for the absence of beauty, and supplies the deficiency of symmetry and grace.

Cheerfulness can be cultivated and acquired as well as other qualities. If one's work is exacting and tiresome, it makes it no easier by being fretful. Form the habit of being cheerful under adverse circumstances. "Our happiness," observes a standard writer, "is a sacred deposit for which we must give account." A serene and amiable temper is among its most efficient preservatives. It is a virtue not to be gainsaid. Admiral Collingwood, one of England's great naval heroes, in his letters to his daughters, says, "I never knew your mother to utter a harsh or hasty thing to any person in my life." What loftier eulogy could a woman have than that?

Some women are naturally cheerful, but allow themselves to be put out by little things. Suppose the servant has broken a dish, or the butter doesn't come, or your husband comes home to dinner late, does it mend matters by any impatient complaint? Preserve your equanimity. The world was not made in a day, nor was it made all flowers and rippling sunshine. Your work will go along much smoother, you will accomplish more, and you will make others happier by being cheerful.—Mrs. F. M. Colby.

Vanderbilt on Money Making.

"Never tell any one what you are going to do until you have done it," said Cornelius Vanderbilt. The man who would succeed in business must keep his affairs to himself. Vanderbilt declared that he owed his fortune to this rule, together with the following maxims: "Never sell short." "I bide my time." "Never sell what you haven't got." You will notice that great business men do not tell the secrets of their business. Men who do this often give their competitors a chance to ruin them. Great men of affairs, as a rule, are close-mouthed. The man who is always telling his secrets freely, rarely has the confidence of the community in which he lives. It is the men who think a great deal and talk little, men of action and a few words, who are entrusted with great responsibilities. It is said that Washington was once asked by an officer, on the morning of a battle, what his plans were. He asked, in a whisper: "Can you keep a secret?" "Yes," said the interrogating party. "So can I," the General added.

An old wagon bridge which has spanned the Wabash river, near Clinton, Ind., for half a century has been removed by aid of the electric current. The county bought the piers, the principal owner agreeing to remove the superstructure to make way for a new bridge. Efforts were made to burn the bridge, but it was found that this would injure the piers, so the sills were wired and electricity applied. In nine hours the pile toppled into the river, leaving the foundations unhurt. The current had the effect of cutting all the sills simultaneously as with so many saws.—Electricity.

Railroad Building by Music.

A wise foreman of a construction gang of Southern darkies knows that he can get about 50% more work out of them if he can keep them singing, when the picks and shovels will invariably keep time with the music. The same custom seems to prevail among the African aborigines.

Building a railroad in the Soudan is not carried on to the sound of the voice of an Irish "boss" directing a gang of Italian laborers. As becomes the milder atmosphere of the tropics, a railroad in those regions is built to the "lascivious pleasing of a lute" or the African equivalent. The "sofas" are the working people, and the "griots" are the musical ones. The "sofas" will not work unless the "griots" play. So every gang of men has its orchestra. The "griots" play on flutes and rude harps the peculiar "rag time" tunes of Africa, and the picks and shovels of the "sofas" go industriously as long as the music lasts. In the Soudan it has been found impossible to get work out of the natives in the construction of railroads unless music was furnished.

To every gang of forty or fifty men there are assigned two harp players and a flute player. As long as the music keeps up the black laborers do not seem to feel fatigue. Generally the musicians get tired before the laborers do. The music produced by these cheerers of labor would not be inspiring to a white man, for it is filled with peculiar plaintiveness. To the Africans, however, the tunes seem to be an inspiration. To the sound of music the steel rails are penetrating the Congo region and forcing their way through the Soudan.

A case somewhat similar to this is the custom in the Cuban tobacco factories. In the big room where the cigar makers work is always a reader. He sits up on a platform and reads novels to the workmen as they manipulate the tobacco. Again, on board ship a sailor will work as well again if he is permitted to "shanty"—that is, sing a working song, the rhythm of which keeps time to his labor. But in the building of railroads music is a new factor. Cecil Rhodes' "Cairo to the Cape" road will be literally fifed and harped through Africa.

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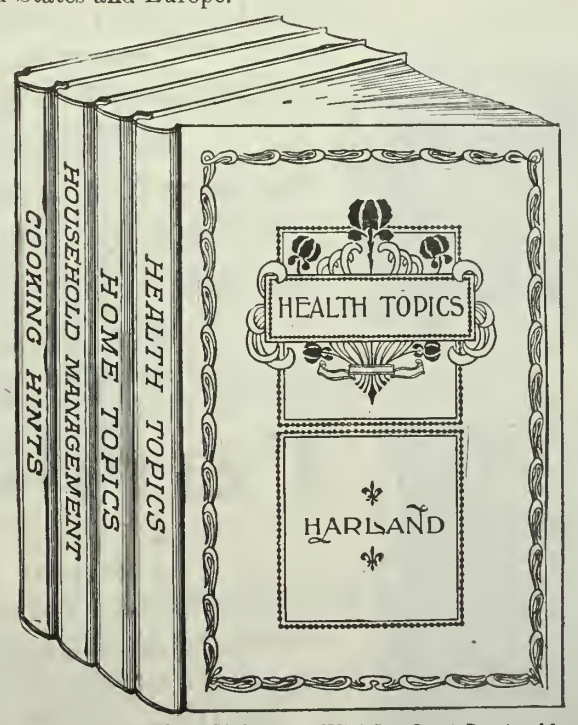
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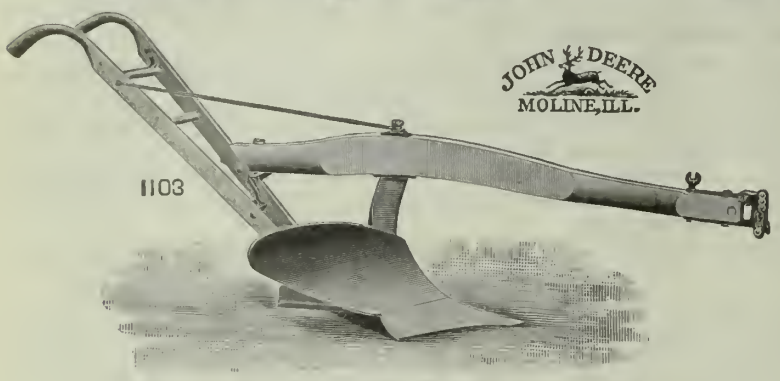
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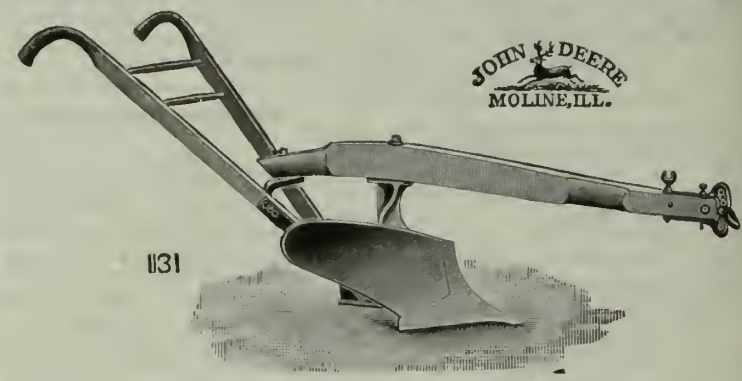
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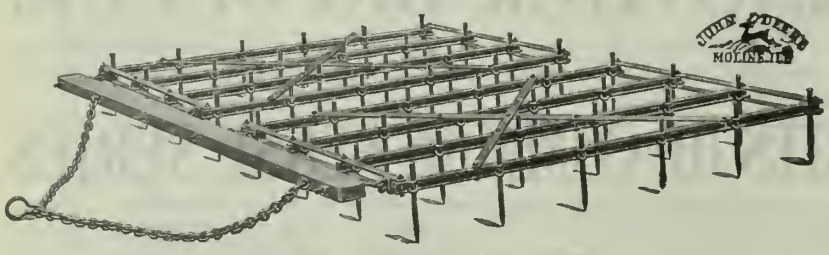
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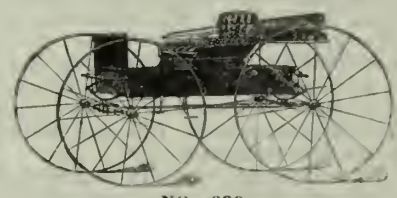
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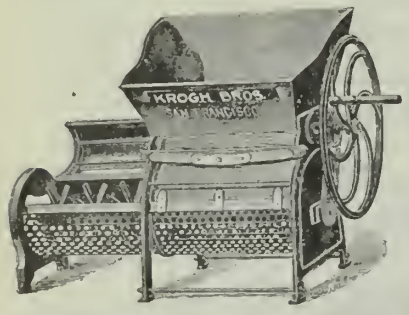
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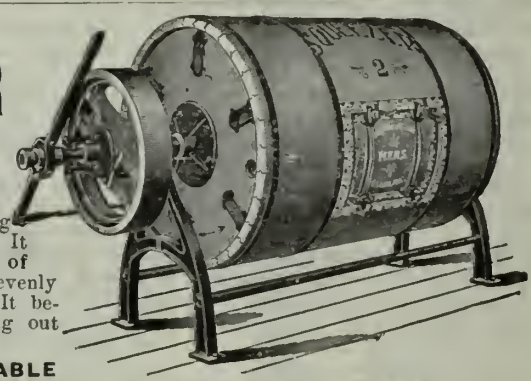


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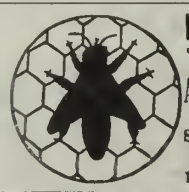
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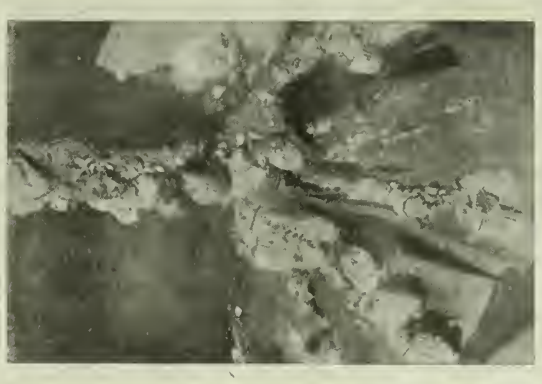
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Vol. LVIII. No. 13. SAN FRANCISCO, SATURDAY, SEPTEMBER 23, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Fumigating Trees to Kill Scale Insects.

The employment of hydrocyanic acid gas to destroy scale insects which do not readily succumb to spraying is one of many notable contributions to economic entomology which have been made by Californians. It is true that this vapor has been long used by entomologists for insect killing, but the application of it to orchard work was first made in this State. It has proved of the greatest importance and bids fair to be much more widely used in the future, for its efficacy, availability and profitability have been fully demonstrated.

In the Eastern States fumigation is being relied upon in the efforts to stamp out the San Jose scale. Recognition of California's leadership had one of its manifestations in the fact that Prof. C. W. Woodworth of the State University was called upon last summer to assist the State Entomologist of Illinois in his application of the cyanide process. It is possible that we may learn in turn something from the East in the treatment of deciduous trees, for we have only thus far employed the gas treatment for citrus trees. There is opportunity in the treatment of some of the lecaniums to have something better than spraying.



The Cottony Cushion Scale



Red Scale on Lemon.



Black Scale.

INSECTS CHIEFLY CONNECTED WITH THE FUMIGATION PROCESS IN CALIFORNIA.



Throwing the Tent Over the Tree.



Pulling Down the Tent.



Tent Ready for Fumigation.

THE SMALL HOOP TENT MADE OF CANVAS LOOPED TO A RING OF GAS PIPE.



Large Hoop Tent Lifted to Throw Over



Pulling Down the Canvas Close to the Ground.



Raising the Tent After Fumigation.



Final Removal of the Tent.

HANDLING THE LARGE HOOP TENT IN THE ORANGE ORCHARD

As the time of the year is approaching in which fumigation is chiefly done in the orange orchards, we desire to call wider attention to it by exhibition of some of the most approved appliances for its use. The University of California has recently published Bulletin 122 of the Experiment Station by C. W. Woodworth, in which the subject is clearly and definitely set forth, and it constitutes a practical guide to an understanding of the matter. First, naturally, are the insects for which the process is chiefly connected. First is the cottony cushion scale. It was to overcome this spray-proof pest that this process was first designed, but the *Novius* (*vedalia*) *cardinalis* came in and took up the cottony cushion proposition and relieved the growers. Later the red scale of the orange became so aggressive that sprays were unsatisfactory and the gas process was revived. Later still the black scale emulated the red scale, and for these two the fumigation is now chiefly done. There have been many forms of tents invented for covering trees quickly and cheaply. The earlier forms have been largely superseded by later designs, and Prof. Woodworth gives a very clear exposition of those now used and directions for their manufacture and manipulation. The illustrations on this page present these facts to the general reader.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, September 23, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

We are bowling along very rapidly through a dry September. If any should be inclined to worry about it let them remember that it is an exceedingly fortunate thing that extra early rains do not come. There is still vast value in the fields, orchards and vineyards which rain would jeopardize and these warm dry days are worth many thousands each to the State. Besides there is nothing which rain could now help except dusty, drooping spirits and they will not become either more dusty or droopy for a few weeks longer. It is better to let things stand and then get rains in volume enough to maintain growth after the seeds start. It is probable that self-sown seeds of our pasturage annuals are less numerous than usual because of the scanty growth for two years in some parts of the State, consequently a start followed by a fallure would be exceptionally unfortunate. Every good seed is needed in the contest with weeds which have some unusual advantage this year because their hardy character has enabled them to perfect plenty of seed where better plants failed. Every interest will, in fact, be benefitted by still longer duration of the drouth providing a good continuous supply comes later—for which let all devoutly pray.

As foreshadowed in last week's Pacific Rural Press, the State Fair this year has proved exceptionally great in point of popularity and patronage. It is described from Sacramento as the most largely attended and successful fair the Capitol City has ever known. It is stated that the receipts exclusive of the pool privilege, amount to close on to $23,000, as against $14,705 last year. The society will realize $10,000 over expenses. This result is largely due to the most diligent and well planned effort made by the management this year to popularize the exposition in every possible way and to the fact that Sacramento was well aroused to the advantage which the fairs are to the city interests. It is very important to Sacramento that such a record is being made and it will make its mark, no doubt, upon future legislation. The management of the society also did very wisely in enlisting the interest and good will of local journals and in furnishing available news to all avenues of publication. Secretary Shields has certainly won his spurs in this contest and should be duly honored. We are well aware that some of the attractions at the fair were anything but agricultural but they seemed to be necessary to win popular interest, and, having this, the exhibitors of strictly agricultural excellence were indirectly advantaged by being able to reach wide assemblages. Make the fair more popular and it will draw more exhibitors of the better sort.

The port of San Francisco has been doing great things in foreign trade during the last year. Collector Jackson has made a statement showing that exports of wheat, flour and raw cotton reached an astonishing volume. The aggregate value of exports of the three staples designated is $8,964,715, a large portion of which is represented by shipments made to China and Japan. The largest item is represented by exports of flour. The number of barrels shipped reached the enormous total of 938,153, valued at $3,466,642. Exports of wheat for the year abount to 3,794,890 bushels, valued at $2,709,995. The largest amounts of flour went to China and Japan, though the shipments reached near-by Pacific countries. The large amount of cotton shipped from here helps San Francisco to commercial rank, but it returns no money to California. It is not California cotton. The total of wheat and flour at a value of above six millions shows what our State can do even when handicapped by drouth, which knocked a large part of our area out of production. Give us a good year and a growth of the Pacific demand in proportion, and then we will show the country what we can do to extend American commerce.

Speaking of grain suggests bags and the relation of the work of the State bag factory at San Quentin to cost of these indispensable articles. At the meeting of the prison directors last week it appeared that there was some danger that the bag ring might be sitting on the safety valve and proposed to hold down the State by getting possession of the output at San Quentin. We do not know what grounds there may be for the apprehension, but it is just as well to arrange for it. As matters at present stand the prison supplies one-fourth of the entire consumption of the State, and to prevent jobbers from buying this up in advance of the 1900 harvest Director Devlin offered the following resolution :

Whereas, It is the desire of the board to distribute the bags made at the prison among the farmers of the State as widely as possible, and to keep a number on hand so as to prevent any combination among dealers, to the detriment of the farmers of the State,

Resolved, That until the further order of the board the quantity of bags to be filled on any one order received after this date shall be limited to 2000 bags, and the board reserves the right to refuse to accept at the present price orders whenever it may appear that the aggregate of such orders will exceed the output from the raw jute now on hand.

The warden reported the following operations of the jute mill: Grain bags carried over on orders from last year, 838,000 ; sold and booked since January 1, 1899, 6,374,074 ; total sold, 7,212,074 ; shipped since January 1, 1899, 6,951,574 ; sold, waiting orders for shipment, 260,500 ; on hand, manufactured and ready for shipment, 99,500 ; to be manufactured to fill accepted orders, 161,000 ; raw jute on hand, 5373 bales, sufficient to run the jute mill until April 15, 1900. The directors apparently propose to hold the State bag factory up to its proper function.

The proposition for a great convention in the interest of water and of forests as agencies of conservation seems to be assuming more tangible form. A meeting was held in this city, at which the preliminaries were discussed and finally given to a committee for arrangement. It is planned to make the thing very broad, even vesting it upon fifty delegates at large to be appointed by the Governor, and building up with delegations from everywhere. There is some little carping on the part of some wise ones because Californians seem to be only now waking and rubbing their eyes on irrigation subjects and are calling for knowledge upon which better laws can be secured. Is it not better, ye wise ones, that ye should rejoice that California has awakened at all? It is certainly a case of better late than never, and if you are so far in advance of these poor people in understanding all these matters there is a fine chance to take hold of the coming convention and try and bring the State up to date in knowledge on the subject. No doubt fuller information about the convention will come later.

There has come an advance in wine grapes, which is very gratifying to the growers and may be comforting in view of the failure of the Crocker proposition. It may be taken as some sort of an indication that perhaps the outlook warrants a higher figure than Mr. Crocker offered. This inference is supported by an admission which Mr. Crocker is reported to have made. "Everybody seemed to think my offer very liberal," said Mr. Crocker, "but some dealers thought they saw a chance to boom the market, so they drew out. It was my offer of $14 per ton, together with the shortness of the crop throughout the State, that led to the present advance in the price. As it stands now, nothing further will be done this year by me. I have been importuned to make another offer at a higher price, but will not do so. I believe that the future will prove that my offer for seven years would have been the best thing for the wine growers of the State." Mr. Crocker seems to admit that he might have offered more and yet not have gone beyond the warrant of the outlook. We hope the facts will thus prove. If good wine grapes can be shown to be worth more than $14 per ton it will be a very strong incentive to renew our vineyards on a resistant basis and will make profitable many investments in cellars, etc., which are now dead property. It will be fine to have it work out along that line.

Though the Dairy Convention at Sacramento last week was not large in point of attendance, it was a productive meeting, nevertheless. The matters which we give on another page relating to the export trade are very pertinent. We can remember very clearly when the now great eastern dairy interests were exactly in the position in which California production now stands. It was in the sixties. There was a chance abroad but it was little understood and the cheese manufactured was not exactly of the character which was required. Careful inquiry gave the features of the opportunity and the kind of goods required, and dairymen rapidly shaped their product toward those ends. The result was the vast export business which has accomplished so much for the Eastern States and for Canada. California can proceed along the same lines and the Government dairy division will do much now which the producers had to do for themselves thirty-five years ago. The State Dairy Association is now in shape to take a broader view than formerly, and its officers can accomplish more by taking hold of a constructive policy, using all agencies for advancement which are constituted instead of giving so much attention to destructive criticism of other bodies which neither hurts them nor helps its work. Cordial co-operation among all those who can give definiteness and force to dairy progress is what is most needed in this State at the present time.

Options on wheat are slightly lower, while spot is quotably the same, but dragging. Barley and oats are weak; corn is dull ; hay is as bad as ever. Bran and middlings are moderately firm. Of livestock, beef and mutton are unchanged; veal and lamb a little lower ; hogs are weaker on account of heavy receipts from Arizona. Dairy products are easy, with no change in prices of butter, eggs and cheese. Poultry changed for the better to-day. There is a good demand for choice tree fruits. All desirable fruit commands good figures. Pears and wine grapes are scarce. There are no quotable changes in dried fruit. New crop almonds have all been bought up. Brown mustard seed is dragging, while yellow is in active demand, and very little is offered. Of vegetables, potatoes are lower and are coming in more freely ; onions are higher and in better demand ; tomatoes are lower ; green corn is higher.

It is announced that at an early date the freight rates on wool in grease to Eastern points will advance from 80 cents to $1, while that on scoured will be raised from $1 to $1.30 per 100 pounds.

QUERIES AND REPLIES.

Forestry Studies at the University.

To the Editor:—I would like much to know what facilities the University offers for the study of forestry. I do not find any such course in the University Register, but mention is made of forestry stations and I infer that something is attempted.—Reader, Wyoming.

The University does not at present offer special instruction in forestry. The institution is not yet equipped for this work; in fact, we believe that at the present time Cornell University in New York, and perhaps one other, are the only institutions which have professors of forestry educated and competent to instruct in the modern science thereof. The forestry experiment stations of the University of California are really tree culture stations, the chief work of which has been to determine what kinds are best suited for California conditions. They do not afford opportunity for forest conservation, etc., as they are not forests. The courses at the University include many matters which enter into the science of forestry, such as botany, arboriculture, soil chemistry, meteorology and the like, but not the particular work which is needed to qualify one as a forester. There is an awakened public sentiment that the University should be equipped in this direction and organized water and forest societies are asking for it. Such instruction should be provided, and the Government forest lands and reservations are available for as fine practical courses in forestry as could be maintained anywhere.

The Jordan Almond.

To the Editor:—Will you kindly inform me if you know of any Jordan almonds being raised in California. If so, in what locality, and if young trees or proper shoots for engrafting can be purchased.—Enquirer, Woodland.

The seems to be some doubt about what is meant by the Jordan almond. Some writers say that the term "Jordan" is a corruption for Jardin, the French for garden, so that this would be, from this point of view, "garden almond"—rather an indefinite description. Others claim that the term is a commercial designation for almonds of a certain long form and slender kernel. However that may be, although growers have been considering the matter for many years, we do not know that any such variety has ever grown here, nor is it possible at the present time to get trace of such a kind from our nurserymen. The subject seems to be about as much involved as the so-called "Queen olive," which turns out to be merely a commercial name which is applied by exporters to olives which are large enough to meet a certain standard.

The Apricot Scale and Comys Fusca.

To the Editor:—In regard to the article under Queries and Replies—"Brown Apricot Scale at Healdsburg"—I wish to say that my experience with the brown apricot scale and its parasites has been just the reverse of that reported by your correspondent. Not only has the parasite cleaned up the scale in this valley, but, as reported to me from Alameda county, it has done well over in that county. I have also examined brown apricot scale from other sections in the State where the parasite was sent and have found indications. These indications mean a great deal, as in my own county I had to place the parasites in nearly every district. Will the parasite *Comys fusca* eradicate the brown apricot scale? is often asked. My answer is "No, but it will keep it in very reduced numbers. Now let me add my experience with insecticides. I have never seen any good results by spraying lecaniums with lime, salt and sulphur wash. The brown apricot scale and the black scale are naked scales, and any oil wash such as kerosene emulsion or the resin wash will do the work. On the other hand, all armored scales such as the "pernicious scale" have been successfully fought with lime, salt and sulphur. I should advise the Healdsburg grower to try *Mr. Comys fusca* again.—Edw. M. Ehrhorn, San Jose.

We are pleased to have Mr. Ehrhorn's conclusions on this matter. We would like to see the parasite catch up with this scale everywhere, but it is not doing so. Many Alameda county orchardists find the parasite as slow as it is reported to be in Healdsburg, and when a tree gets into the shape indicated by the specimens sent us from Healdsburg, there is no use waiting any longer for the natural enemy. There is no recourse, if the owner wishes to save the trees, except to get right in, cut back and spray and get the upper hand of the insect. By that time it is to be hoped the parasite may come in force sufficient to keep the pest reduced.

Ruby Prunes.

To the Editor:—Please inform me how to make Ruby prunes. The variety I have is the petite French prune.—Subscriber, Tehama county.

Ruby prunes are made by sulphuring after dipping. The amount of sulphur vapor is to be determined by the effect and can only be learned by experience.

The Santa Paula Grape.

To the Editor:—I send you a bunch of grapes raised by me at Orangevale from a vine I brought from Seville in Spain a few years ago. I cannot find anyone who knows the variety, and I respectfully ask you what to call it. As you will notice, the shape and pendulous character of the berries are peculiar, while the color and flavor are excellent. To me they have something in common with the Almeria grapes which are imported into New York the winter, and are much sought after for their keeping qualities.—Sacramento Subscriber, Orangevale.

The grape is recognized by Mr. Bioletti of the University at Santa Paula. It resembles closely the Cornichon Blanc of France and the Pizzutella of Italy, but differs somewhat in texture and shape. It is a little firmer in flesh (more crisp) and of better shipping qualities. In shape it is less curved and with a more contracted apex.

San Jose Scale.

To the Editor:—What is the matter with the branches I send and what shall I do about it?—Reader, Santa Cruz.

The fruit tree branches are very badly infested with the San Jose scale. The proper treatment would be to give the trees a good pruning early this winter, burn all their prunings, and spray the trees thoroughly with the lime, salt and sulphur remedy. This is a very effective treatment and if faithfully used will save your trees from the ruin which now evidently is impending because of the operations of this pest. The lime, salt and sulphur recipe has often been published in the Rural, but if you do not happen to have it, please notify us and we will send it to you.

Smutty Wheat and Gape Worms.

To the Editor:—Please inform me through the medium of your paper if smutty wheat is injurious to chickens; also, what will cure the gapes?—E. L. M., Sheldon.

We never heard of any injury traceable to such wheat. The smut grains are poisonous to some animals and we should not choose smutty wheat, just for the sake of getting it, but if we had it we should use it unless some reader will kindly tell us that he knows better. Gape worms are most readily dislodged by using a small feather dipped in turpentine, passing it into the throat, twisting and quickly pulling it out, thus removing the worm. It has recently been found that chicks eating earth worms are more apt to have the gapes, and the eggs of the gape worm are thus thought to gain access to the chick. Of course, gape worms and earth worms are very different things.

Strawberry Root Borer.

To the Editor:—I find in my strawberry patch a destructive grub or worm, boring into the boll of the plant, completely destroying it. The grub or worm is ½ to ¾ of an inch long. What is it, and the remedy?—A. F. Bowen, Mountain View.

The strawberry root borer is the larva of a clear-winged moth which is related to the crown borer of the peach. Uusually the best course is to plow up the old field and replant on new ground. If the field is so located and leveled that water can be held on the plants a few days in winter, it is probable that all the worms will be killed. Fortunately this insect has not been abundant enough in California to occasion much trouble.

Two New Apples.

To the Editor:—I send a sample of two new apples. The one most elongated in shape is supposed to be a seedling of Gravenstein. There is but one tree in existence. It bears well. The other is supposed to be a seedling of Jonathan. The tree resembles Jonathan very much in growth, foliage, etc. It has borne a good crop five years in succession. Another five-year-old graft has borne three years out of the five. The latter is called Morris Red.—T. J. True, Forestville.

These apples are both striking varieties and certainly promise to be valuable. From the condition of the specimens they promise to be considerably later and to be better keepers than the varieties from which they are supposed to have sprung. They both seem to us to be worthy of propagation. It is impossible to tell, however, what their market future may be. The tendency seems to be toward concentration upon fewer varieties, and many of the older kinds which are thoroughly good are going out of sight.

Leaf Failure of Vines.

To the Editor:—I mail to you this date some cuttings from a few grape vines in my vineyard. Will you be good enough to tell me through your valuable paper what the matter is and a remedy for the same?—Subscriber, Pleasanton.

We do not find any specific marks of disease. The appearance seems to be a reddening without local cause, and it may be the result of temporary moisture condition of the soil or some trouble of the root. In all such abnormal appearances specimens of the small roots should be submitted for examination also.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Sept. 18, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has averaged nearly normal along the coast, and from 3° to 7° above in the interior. The only precipitation reported was a trace of rain at Independence. Strong north winds and forest fires in the mountain districts of the upper Sacramento valley have caused some uneasiness among citrus fruit growers, but thus far no damage has been reported. Conditions have been generally favorable for fruit drying, which is nearing completion, and for the maturing of wine and raisin grapes. Raisin picking continues, with a yield of superior quality, but light in most sections. There is a large crop of olives. Citrus fruits and walnuts have been greatly benefited by the warm, dry weather. Oranges will be better in quality than the last season's crop, but the yield will probably be below the average. Hop picking continues. There is a heavy crop, of good quality. Sugar beets are nearly all gathered. In some sections there is a considerable quantity of hay still in stack, owing to a scarcity of presses and laborers. Plowing has commenced in some localities.

Sacramento Valley.

The temperature has been considerably above the normal and greatly benefited Tokay grapes, increasing the percentage of sugar. The yield is far above the average in quantity and quality. There is also a large crop of wine grapes. Oranges and olives promise a good crop. Heavy north winds and forest fires in the mountain districts are causing some uneasiness to citrus fruit growers. Hay baling continues.

Coast and Bay Sections.

Unusually warm weather has ripened grapes rapidly. The yield will be about an average and quality good. Orchardists are still gathering and drying prunes, which are of fair size and good quality. Olives look well and there are indications of a large crop. Wine making has commenced in the Sonoma valley. Sugar beets are being gathered. Hops are above the average. Alfalfa is doing very well. There is a considerable quantity of hay in stack and baling is progressing slowly, owing to a scarcity of presses and help.

San Joaquin Valley.

The crops are being rapidly disposed of. A large crop of figs is being dried. Warmer weather has been favorable for drying, which is nearly completed, and also beneficial to grapes. Raisin picking and drying are progressing. The yield is of good quality, but light. Oranges will be of better quality than last season, but the yield will probably be lighter. Corn is looking well. A good crop of sweet potatoes is being marketed. Hay and wheat shipments are progressing in some sections. Ground is being prepared for grain sowing. Pasturage is very short in some localities.

Southern California.

Dry, warm weather has been greatly beneficial to citrus fruits. Fruit drying continues; prunes and peaches are of good quality and quite plentiful. The yield of walnuts will not be up to the average, but the quality is superior to that of last season. Sugar beets are nearly all gathered.

Eureka Summary.—Morning fogs have benefited corn, beets, potatoes and pasturage. Barley threshing continues; prune drying active and corn and potatoes being marketed for local consumption.

Los Angeles Summary.—The week ended warm and dry; good for fruit drying and maturing citrus fruits. Raisin making and grape shipping in operation; crops fair. Walnut harvest begun in some localities.

The following data for the week ending 5 A. M. Wednesday, September 20, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Maximum Temperature for the Week	Minimum Temperature for the Week.....
Eureka.....	.00	1.15	.16	.76	48	74
Red Bluff.....	.00	.02	.00	.39	60	98
Sacramento.....	.00	.02	.00	.21	56	96
San Francisco.....	.00	T	T	.25	49	72
Fresno.....	.00	.00	.00	.23	58	102
Independence.....	.07	T	.11	.04	50	92
San Luis Obispo....	.00	.00	.00	.32	46	98
Los Angeles.....	.00	.02	.00	.12	54	96
San Diego.....	.00	.06	.00	.09	58	78
Yuma.....	.00	.06	00	.62	62	110

FLORIST AND GARDENER.

Fall Preparations for an Early Spring Garden.

To the Editor:—For many years past I have always made it an invariable rule to clean up my hen yards and barnyard in September and put the contents—cow, horse and poultry manure, as well as a little ashes and scrapings from my woodyard (chip dirt)—on my land when I make my early garden. I have found by years of practical experience that I can hardly get my land too light or too rich for onions, lettuce, turnip beets, cabbage and cauliflower, all of which mature before the hot weather makes its appearance, which is generally, here, the first part of June. Some of my lady friends tell me it is *very* hard work—in fact, almost impossible for them to get their husbands or sons started towards making an early garden. When approached on the important subject they will say, "time enough yet," or "bime-by" they will attend to it. This puts me in mind of what a Chinaman said to a real estate agent who was showing him, some years ago during the land boom, a great many lots he had for sale in the outskirts of Los Angeles, and told him if he bought some of them he would surely make *lots* of money on them. The Chinaman smiled and said, "I sarvey (sabe), Melican man too *muchee* bime-by." I have no doubt but it "goes against the grain" for most of men to scrape up manure in hot weather, a month or two before the fall rains, and put it on their land, but it is very much easier to do so then than after the winter rains set in, when plowing, seeding and other very important work is on hand, and they will have but very little time, if any, to spend in making a garden.

Bad Management.—I am personally acquainted with a great many men, good men, too, and kind to their families, who have plenty of good land and wagon loads of the very best of manure tramped nearly as fine as powder, as well as huge heaps under their barn windows, which fire-fangs every summer or leaches every winter during our long-continued rains, making it almost worthless in the spring when they haul it out on their fields (if they ever do), who do not raise any vegetables worth mentioning for themselves or their families, but either go without (as I know many of them to do) or buy occasionally 10 cents worth at a time of wilted vegetables, of the Chinamen or Italians, which is hardly enough for a few mouthfuls apiece. When I see, most everywhere I go, such a vast amount of the very best of fertilizers going to waste, it makes me feel very sorry for the women and children who, on account of the bad management of the men folks, are almost entirely deprived of the healthful and nourishing vegetables which are so conducive to health at all times, but especially during the spring months when the system seems to crave them the most.

A Small Piece of Land Sufficient.—It is really astonishing what a large amount of vegetables can be raised on a very small piece of ground, providing it is liberally enriched and carefully attended to, and more especially if one has good facilities for irrigating, even on a very small scale. I am now picking my Kentucky Wonder pole beans, which I irrigate with a small hand pump. I picked a common milkpan full of them from a single hill, and some had been picked from the hill before. I have twenty hills 3 feet apart and I am fully satisfied that they will average a milkpan full apiece before the bearing season is over.

Raised Beds.—I have now had five years' experience with my raised beds for early vegetables, and the longer I use them the better I like them. I have sixteen beds, 20 feet long and 4 feet wide, which I find is about the right width to work conveniently from each side. Between each bed is a path 14 inches wide and nicely graveled; they are always in the best of condition, even in winter. My beds being very rich, light and friable, I can work them at any time, even a day or two after a heavy rain. They face to the southwest; on the back end is a picket fence and my barn is on the northwest side, which protects the beds in a great measure from strong north winds which are so destructive to young and tender vegetables. Each bed is numbered for convenience sake, as I keep a diary of everything I plant, and when planted, as well as to the success I have in raising the different kinds of vegetables, especially novelties. For instance: "Feb. 1, 1899, Bed 9—Planted two rows of 'Nott's Excelsior' peas, 1 foot from each side, and one row of Lentz turnip beet in the middle." The past season I raised in these beds peas, cabbage, cauliflower, onions, beets, radishes and lettuce, also large-leaved mustard for greens. After these were all gone I set out tomato plants that are now in full bearing. In one bed I sowed four ounces of onion seeds, Aug. 5; they germinated in ten days and are growing very fast, and will be ready to transplant as soon as the first soaking rain comes. I find that onions, lettuce and cabbage are about the only vegetables that will do well to plant here in the fall, and even cabbage will do much better if one has good strong stocky plants to transplant about the middle of January or first part of February.

In conclusion I would earnestly recommend every man who has a family and a small piece of land to prepare as soon as possible some raised beds for an early garden. It is true that there is some work in connection with making these beds, with their graveled walks, but when properly made they will last a lifetime and are always ready for immediate use, and it is really a pleasure to attend to them.

Ira W. Adams.

Calistoga, Cal., Sept. 11, 1899.

Planning and Planting the Garden.

We recently gave some pointed suggestions and criticisms on planting the home place, which W. S. Lyon of Los Angeles, the well-known southern horticulturist, prepared for the *Mirror*. It was largely a denunciation of tree planting upon small garden sites, and was intended as a word of kindly warning—to do all other things unto your garden first, and let these be added as time and space permit.

The Lawn.—Don't contract for a ready-made garden; it comes in the same category as a library—a complete library bought to order, or a commission to fill an art gallery with old masters. So far as the grading, the laying of your walks, and the planting of the lawn are concerned, by all means enter into contract for their delivery. Not only is it a money-saving proposition, but you are spared uncorking the vials of your wrath upon the seedsman who has sold you weed seed in lieu of bluegrass.

That venerable aphorism, "As ye sow, so shall ye reap," may apply to pecadilloes, but never to lawns put in by amateurs; but is apt to give birth to a shocking crop of backstairs language, not to say profanity, when followed by a lawnless lawn.

Don't be concerned about cutting a few sods from the finally irreproachable turf when the time comes for planting. The lawn maker has in general a most persuasive tongue, and something to sell. He will discourse eloquently upon the irreparable damage to the turf that must come of planting when the grass is well grown, and generally achieves his point by selling you a palm, a pandanus or a petunia, whether suitable or not, to be planted before the lawn is laid down.

Briefly, and with some trepidation, I suggest accepting the petunia; it costs less, and can be removed with less subsequent trouble.

Walks.—The walk-making is almost as consequential a feature as the turf. On a small city lot, convenience demands exits and approaches upon straight or right lines. Even the effective landscape results of sweeping curves and graceful windings are lost when reproduced upon the toy limits of a 50-foot front, and, worse yet, the butcher, the milkman, and even the burglar, will all take a short cut and eventually make a trail across the lots, with fatal injury to the turf. It may be heretical to advocate a gravel walk in these days of cheap and excellent cement substitutes. However, at the risk of incurring the enmity of the frugal housekeeper, who looks with aversive eye upon the erosive effect of sand when brought in upon her priceless moquettes or Wiltons, I will say that such walks and drives, properly laid, rolled and sprinkled, will never contribute enough damage to carpets to give a healthy stimulus to the market for those fabrics. For artistic results nothing is comparable to the charming effect produced by our warm yellowish-red gravel in contrast with the cool emerald green background of a bit of well-kept sward.

Various brown, red and yellow pigments have been incorporated with the cement substitutes in common use, but so far, all that I have seen fall far short of competing with the specific individual beauty of our native gravel.

Well, we must assume that the walks are laid and the lawn made, the latter still unmarred by a single specimen, and so we will keep it until we hover for a while about the outskirts until we determine what the effect of a few floral frills and furbelows will have upon the whole. There are the two sides to act upon first.

Fences.—Possibly the side boundaries are only theoretical; for you may live upon such terms of amity with the neighbors that your lawns coalesce, and no happier scheme can be devised for enhancing the apparent size of all the grounds. If, however, the entente cordiale is suddenly ruptured, a partition fence becomes a necessity. All fences are unlovely, hence I recommend one of stout posts and telegraph wire, that can be quickly concealed from view and its unloveliness reduced to a minimum. The objection to this is sometimes made that the sides soon become a chaotic tangle of vines, very trying to people who take pride in the neatness and tidiness of their well-groomed grounds.

This objection can most times be overruled with the shears, and whether the fence be used as the foundation for a hedge, or as a trellis for vines, is the least expensive thing of its kind that can be used.

The questionable taste that leads some home makers to place a spurious stone coping along their boundary lines and surmount this with a low, wrought iron grill or fretwork, is altogether too suggestive of the cemetery.

The frequent attempt to overcome this melancholy impression by gayly topping it off with little gilded fleur-de-lis, or gilded balls, conveys uncomfortable suggestions of another kind of fence. As these are invariably low and offer no protection from trespassers, the only possible excuse for their raison d'etre must be on the ground of ornament.

Ornaments.—To people who are pleased with their ornate value, I suggest some appropriate additions in shape of a startled bronze fawn or two emerging from a chrysanthemum thicket. Such a one lurks beneath the shade of a jacaranda tree on South Hill street.

With such an environment, a cast-iron dog or two can be laid judiciously about, and a couple of white Majolica rabbits, such as are scurrying (for rabbits always scurry) across the green of an Adams street lawn, will confer eclat on the mise en scene.

These things have their uses, particularly just now, when old junk and pot metal sells on a rising market, but if your fancy insists on being gratified with a metal menagerie, by all means keep it securely chained up out of sight on the rear lot.

Flower Beds.—To return to the plain and inconspicuous wire fence that has been set up on the boundary line and along which you have prepared an ample 3-foot bed. In this, at intervals of 3 feet, you set rooted plants (or cuttings will answer if inserted in late spring) of the common zonate leaf, mauve-flowered ivy geranium. Within three months a 4-foot fence can be almost completely covered with a graceful portiere of greenery that, with occasional trimming, can be kept prim and tidy enough to fill the requirements of the most exacting stickler for neatness.

All of the single-flowered sorts of these so-called ivy geraniums are more satisfactory than the double-flowering forms. The latter, though very beautiful, are, with few exceptions, poor growers, and so very brittle that the one sprawling stem that is so sure to fall into evil ways and go astray, resents your kindly attempt to train it in the straight and narrow path it should go, by helplessly breaking in two.

The common shrubby geraniums are, of course, largely used along such a fence, and if all seasons in southern California were akin to the present one, with its abnormally low summer temperature and excess of atmospheric humidity, we could seek for nothing more striking and effective for such a fence than a hedgerow of the Gen. Grant, or, in fact, any good, strong scarlet geranium.

Unfortunately, the constantly wet root that will come to the plants along this fence, due to the proximity of the lawn, does not act in harmony with a hot, dry atmosphere; and as a sequel, the flowers of most double geraniums are most years blighted or blasted, and a perfect truss of bloom is a rare exception. Precisely like conditions make such a place unsuitable for a hedgerow of roses. This, however, is another story, and must be kept for another day.

Sugar Beet Growing.

By Gus Hansen, at the Anaheim Farmers' Institute.

The best soil for sugar beets is a rich, deep, sandy loam, not too light, so that the early winds do not drift the soil and cover or blow out the seed plants. This soil permits the beets to go deep into the ground. The beets will not suffer so easy from lack of moisture. You also get an even and full stand, which is necessary to make it a success.

Alkali land is not good for beets. It is very difficult to get a good stand on such land. The seed does not germinate so good, as the surface of the land dries out too quickly. Sugar beets raised on such land are inferior. They are coarse and have a tendency to grow partly above the ground. The grower is compelled to top off one-half or all that grows above the ground, as there is no sugar in that part of the beet. Purity and sugar are a good deal lower in alkali land beets than beets raised on good soil. It is seldom that you get a good stand on alkali land. The beet stand has to be compact and uniform to have them ripen together.

Plowing and cultivation is an important point. The ground has to be plowed deep—10 to 14 inches, or 8 inches plowing and 4 to 6 inches subsoiling. I consider subsoiling the best. After plowing the land it has to lie in the weather for four weeks to permit of absorption of warmth and air. After this keep on cultivating and rolling till the ground is in fine shape to receive the seed. The seed ought not to be planted deeper than ½ inch. The ground is warm on top and the seed sprouts quickly. The plants ought to be up in ten to fourteen days. Before the plants appear I harrow the ground crosswise to destroy little weeds and loosen the soil.

After four weeks, or when the plants have four leaves, it is time to thin them. Before thinning the plants the ground has to be rolled and cultivated. Thinning must be done very carefully on moist land. I thin them 6 to 8 inches apart. If the plants are too

far apart, they keep on growing and do not get ripe. On land not so moist I thin them 12 inches apart. After thinning the plants must be cultivated again. Cultivating and hoeing is then the main work till the beets are ready for topping and delivery to the factory.

THE DAIRY.

Export Opportunities for Dairy Products.

By MAJOR H. E. ALVORD, Chief of the Dairy Division, Bureau of Animal Industry, United States Department of Agriculture, at the Dairymen's Convention at Sacramento.

For two years or more the United States Department of Agriculture has been investigating the subject of foreign markets for American butter. Under the supervision of its Dairy Division, the Department has made experimental exports of butter and other dairy products to Great Britian and markets on the Continent of Europe, and from California westward to Pacific ports. Attention has also been given to opportunities for increased trade in Mexico, the West Indes and South America.

Difficulties Involved.—The outlets in the directions last indicated seem promising, but this trade must be carefully cultivated. It involves special preparation to meet the conditions of warm climates, whether in the South or in the Orient. Refrigerated ocean transportation is scarce, and cold storage in the markets here referred to cannot be relied upon. Consequently, butter must be exported in hermetically sealed packages, and preferably small ones, containing one or two pounds, or perhaps only half a pound. This is to accommodate retail trade where very little butter is used at the best, and where one of our efforts must be to educate people to use it. And the question of making the butter itself, suited to this peculiar trade, and of a quality to compete successfully with the butter of Denmark, Sweden and the north of France, is a matter which requires further investigation. To this subject, the United States Department of Agriculture is giving especial attention at the present time, and is expecting assistance from the creameries and butter makers of California.

California Interested.—There is reason to believe that by special methods of feeding milch cows, and under conditions which can easily be attained in California, butter can be made which has just those characteristics as to body, firmness and high melting point, which makes it well adapted to the requirements of markets in warm climates.

This question, as well as the matter of packages, safe and yet economical—and all the peculiarities incidental to different foreign markets and communication therewith—are now being practically studied. The object is to obtain this useful information so it may be published for the benefit of the dairy interests of the Pacific coast. The inquiries also cover similar points applicable to cheese and all dairy products in forms which can be exported.

It is well understood that California is especially interested in the extension of dairy trade on the shores of the Pacific, north and south, as well as in the Orient and "the islands of the sea." But any foreign markets which will take American dairy products must be of interest to the Pacific coast as well as east of the Rockies. So long as there are accumulations of butter and cheese in our large Eastern markets, more or less of this surplus is sure to find its way at times to your coast, where is has a depressing and demoralizing effect on your own dairy interests. Therefore, whatever may be accomplished towards increasing dairy exports from our Atlantic ports must also prove beneficial to the dairying of the Pacific slope.

The British Markets.—By far the best foreign market yet found for butter from the United States is that of Great Britain. There is an immense demand in the markets of London, Manchester and Liverpool, and it is constantly increasing. These markets will be glad to get a very much larger supply of American butter than they have ever yet received. This trade, therefore, depends mainly upon two conditions: First, the prices which the British will pay, and second, the willingness or ability of producers and merchants to make exports of a uniform high quality, and to keep them up regularly, at least during parts of the year when the British customers particularly want them. Heretofore, the main difficulty in establishing a butter trade with England has been that our own people were willing to pay higher prices for our best butter than the British cousins would, and consumed most of it at these prices. Consequently, we have exported butter in quantity to England only when there happened to be an unusual scarcity in their market, with corresponding high prices, and a surplus in our own country ready to meet this temporary demand. These have been the conditions during the last few months. Uncommonly large exports have been made, and at a profit. But this may be said to be almost accidental. We happened to have a considerable surplus on hand, and the British markets happened to be in a condition to want this and pay us good prices for it. It is plain enough that this is not the kind of regular and reliable trade that is most desirable to establish, in view of the prospects of a continual surplus of good butter in the United States.

Our Competitors in Europe.—To secure a regular position for our butter in the British markets and hold it, we have to compete mainly with the supplies from Denmark, Australia, Argentine and Canada. Denmark has about reached the limit of production and can hardly hope to supply the increased demand which is made by Great Britain year after year. Canada is our most active, and thus far a most successful, competitor in that field. The conditions of making butter and transporting it to Great Britain are practically the same for Canada and the United States. The Canadian Government has done so much in late years, however, and is still doing it, in extreme paternal fashion, to improve the quality and give uniformity to Canadian butter and to offer exceptional facilities for storing and transporting it, that at the present time Canadian producers and merchants certainly have decided advantages over those of the United States. It does not seem possible, under our system of government, for the Federal authorities to do much in following the example of Canada in these particulars. One thing that might be done, and manifestly ought to be, is to extend the present system and regulations for the inspection of meats and meat products exported from this country, so as to include dairy products. In this way we can at least guard our reputation and see that nothing goes to any foreign market under the name of American creamery butter, that is not the pure and genuine article of standard quality. There is opportunity, however, for the great butter producing States to do much useful work after the manner of our Canadian neighbors in improving the quality of the butter made, and especially in securing a greater uniformity in the article, so that large supplies, practically identical in character, can be found at any time ready to meet the demands of foreign markets.

Our Competitors in the Orient.—Australia and Argentina are furnishing Great Britain and other markets with immense and constantly increasing supplies of butter. The Pacific States are particularly interested in Australia, because it will be our chief competitor in the China sea. In both these countries the Government is aiding the business in every possible way. But, with all these advantages, it has been found necessary, thus far, to provide against deterioration of the butter, upon the long and trying voyage to reach the British market, by the use of chemical preservatives. This places both these countries at a very decided disadvantage, and it may be confidently asserted that there is no reason why the United States should fear competition from either of them, as far as the markets of Great Britain are concerned. Denmark is so near to the British market, and its butter can be so easily and quickly delivered, that that country has never used preservatives and will permit none. Thus far very little has been used in either Canada or the United States, and it is certainly to be hoped that none will be in the future.

What the Department is Doing.—The experiments of the United States Department of Agriculture have clearly demonstrated that butter from the great producing area in this country, of which southern Minnesota may be called the center, can be made and delivered in London and Manchester fully equal in quality to the very best Danish, which has long held the top of the British market, and in just as good condition. This, with the use of no preservative other than common salt, and with a good deal less of this than is customarily used in our own country.

Throughout the entire year of 1898, and during the early months of 1899, butter from creameries in the central West was exported every week by the Department and supplied to a regular line of customers in the north of England. The result was eminently satisfactory, and when the Department experiments were discontinued the British merchants were much disappointed and applied to be placed in direct communication with large creameries and their selling agents, in order that this American supply might be continued. Offers have been made direct to several creameries, as the result, for more than they can supply, and negotiations are now in progress between some of the largest British butter merchants and American houses which are in condition to enter export trade.

The work which has thus been done for the older dairying regions in this country, the National Department of Agriculture now wishes to repeat for this Western section. As already stated, the work has been begun, and I wish now to bespeak the friendly interests of California dairymen and their active co-operation whenever and wherever the Department feels the need of their assistance.

DISCUSSION.

Mr. R. A. Pearson, one of Major Alvord's assistants in the Washington office, was present at the convention and was cordially welcomed. After reading the foregoing letter, Mr. Pearson spoke further on the same subject. He said: California stands directly across the Pacific from the swarming millions in China and Japan. At one time the people in these countries did not eat flour, preferring rice. They had been educated to like bread, and now they should be educated to eat butter on their bread. The possibilities in this market were tremendous, and the United States Department of Agriculture was experimenting with a view to creating a demand for dairy products, and hoped for the assistance of the dairymen of California, who would be so greatly benefited by the opening up of this great market.

While it is true that an appetite for butter has not been developed among the people in the Orient, it is entirely within reason to believe that a demand can be developed among these people. A well known traveler has stated that if China's demands ever expand in any such degree as those of Japan and other countries that have awakened from their Asiatic lethergy, her foreign trade should reach, on a conservative estimate, $500,000,000 a year.

The Japanese are rapidly advancing and their habits are changing. In 1897 they imported about 200,000 pounds of butter—enough for about 10,000 Americans—and just imagine the market that awaits us if 40,000,000 Japanese, or any considerable part of them, could be induced to use butter.

Consul Harris had written from Japan that there was no good reason why the butter makers of the United States should not control, to a large extent, the importation of fine table butter in Japan, as they now do the butter in tubs. To gain that control, the manufacturers must see that the butter and packages are "gilt edge." The standard must be kept up, and every precaution taken to hold the trade. The importers are ready and willing to give the United States exporters preference.

The Home Dairy.

By W. J. COLE of Hardscrabble at the Westminster Farmers' Institute.

Private dairies in southern California are few and far between. More than nine-tenths of all the butter in southern California is made at public creameries. The quotations would indicate that creamery butter was the highest priced butter on the market, but such is not the case, as nearly every city in the United States gets some of its butter from private dairies, paying a higher price for it than the highest creamery quotation.

Some people think that butter, in order to be good, must be made on a large scale, with improved machinery. I claim it is no more necessary to have a separator to make good butter than it is to have a mowing machine and wheel rake to make good hay. In fact, the highest priced hay sold in New York City is raked by hand to avoid gathering in dust and dirt. I claim I can make just as good butter from one cow, the cream raised in pans and churned in a dash churn, as any creamery with the milk of its hundreds of cows separated by any kind of a separator and the latest improved churn.

Not in the Old Way.—Do not misunderstand me. I do not advise going back to the old way. The mowing machine is a labor-saving machine; it will not make long, rusty, coarse hay short and sweet, neither will the separator and the latest improved churn make good butter from poor milk. I have used a separator nine years, and I would sooner part with my mowing machine than with it. The mowing machine I use thirty days in the year; the separator is used every day.

My neighbors say they patronize the public creameries because it saves so much work in the house. My butter is all made in a brick dairy by myself and a hired man. It does not interfere with the housework in the least. When my children grow up they will understand running a separator, churn, gasoline engine, testing cows and milk and selling the butter. In fact, they will understand the butter business from start to finish.

I am my own butter maker, my own commission man, and, if I do not make anything out of it, I have the satisfaction of knowing that the commission men and the speculators do not. If reverses overtake me and my children should seek employment, how much better are their chances for getting good wages than if they simply understood the milking and taking the milk to the creamery.

The condenser at Buena Park pays a higher price for milk than most of the creameries, but it does not return any of the skim milk, which is a great drawback in raising calves, pigs, chickens and turkeys. Through this source I receive 50% of my profit; a calf that sells at six months old for $25 pays 50 cents per hundred for all the skim milk he drinks. There is a great deal of satisfaction in knowing that you can go it alone, compared with the uncertainty of the public creameries.

Vicissitudes.—Something like ten years ago the condenser at Buena Park started up and ran about three years, and then closed its doors. Then the question was asked on every hand, What shall we do with our milk? Some kept it at home and made butter; some took it to Westminster and some to Norwalk. Finally, Mr. Raab started a creamery at Centralia. It was such a good investment that Mr. Roller started another next door to him. But the rule, "If a little is good, a good deal is better," did

not work in this case. Mr. Raab soon closed his doors and moved to Bolsa, where he had room according to his strength. Not long after Mr. Roller's plant was destroyed by fire, and it has never been rebuilt. Then the honest farmers put their heads together and built a skimming station at Buena Park. No sooner were they well under way than up starts the condenser again, paying a higher price for milk than they can realize. Most all of the milk goes back to the condenser again. Then they called a meeting, decided it was best to sell out for 60 cents on the dollar and swim with the tide. All the time these changes have been going on my little one-horse plant has been running smoothly along, and has never been for sale for less than 100 cents on the dollar.

Dairy Resolutions.

At the Dairymen's Convention in Sacramento a resolution was adopted requesting the Regents of State University to use their utmost endeavors toward securing the erection and equipment of a dairy school, so that the United States Department of Agriculture might be assisted with proper facilities in making experiments looking toward building up a trade between the Pacific coast and the Orient in dairy products.

Another resolution, calling upon California's representatives in Congress to work for appropriations in support of the work of the Department of Agriculture, in building up foreign trade in dairy products, was likewise adopted. There were also adopted resolutions approving the work of the State Dairy Bureau, thanking the press and the Secretary of State for assistance rendered, and calling on the State Board of Agriculture to offer premiums on graded, unregistered cattle.

Governor Gage was called upon, by resolution, to appoint H. M. Le Barron of Sonoma county a member of the State Dairy Bureau vice Louis Tomasini, deceased.

Wisconsin Dairy School.

The annual circular of the Wisconsin Dairy School, located at Madison, Wis., is now being distributed. The class of last winter was the largest in the history of the school. There were four graduate students, eight who took the course for the second time, and 114 first-year students, making a total of 122 butter and cheese makers in the class of 1899. The next term of the school begins Dec. 5, 1899, and closes Feb. 22, 1900. Since the opening of the Wisconsin Dairy School in 1891 there has been a total attendance of 902 students. After taking the winter term of instruction students who are favorably located for the purpose make an effort to secure the dairy certificate, which is granted to those who have satisfactorily complied with all the requirements for obtaining these certificates. One hundred and seventy-five certificates have been issued to date.

THE IRRIGATOR.

The Water Question.

By W. J. Fay at the University Farmers' Institute, at Anaheim.

To Excite Discussion.—My views of papers read and talks made to such assemblies as this, are that they should inspire such discussion and criticism as will most forcibly present the subject treated to the minds of such of the audience as may be interested in that subject.

Therefore, what I may now say on the water question must not be held as my personal views of the matter, but rather an asking of yourselves: What do you think of it? Surely it is of sufficient importance to have called for most earnest consideration by all of you.

Our Poor Laws.—On my advent in this community, and taking a place among you as an irrigator, I was much surprised to find that the State of California was so very much behind the times in the matter of control of irrigation affairs. Why do you, the people, permit your State to lag thus in the rear of the procession? Why do you send to the legislative halls of your State those whose acts are wrong from end to end, and the jobbers and trimmers, who fritter away the time of the State and their own energies in the framing and discussion of impracticable bills for the relief and distress of county officials and never so much as chirp on the subject of a proper control of the irrigation water of the State and interests of the irrigators, and that, too, at a time when such interests, though paramount, are at hazard at every bend of every river whose waters are used for irrigation purposes, and will continue to be so at hazard while the doctrine of riparian rights is permitted to control the diversion of water. This riparian rights doctrine, being founded and built up for the control of diversion of water for purposes other than irrigation, has proven to be unsuitable and unjust when applied to diversion of water from natural streams for irrigation purposes. It assumes that water diverted from such streams is to be returned thereto in undiminished volume and unimpaired quality for the uses of the riparian owners next below.

A Misfit.—None of these conditions can be complied with by water diverted for irrigation, for the reason that not less than half of such water goes to the air by evaporation; a part of the remainder is taken up by plant life, and the moiety, which may possibly be returned to the channel below the point of diversion by percolation or infiltration, returns burdened with such a load of undesirable mineral salts as to be totally unfit for future use as irrigation water.

To direct your attention to much land lying near by us, on the southwest, which has been ruined by excessive use of just such water, is all that need be to convince the most optimistic that such water is bad and if used at all should be used with economy.

A most superficial consideration of the question will, I trust, lead you to ask of yourselves and your neighbors whether or not the law that permits one man to so jeopardize the interest of another, in the common property, (the water), requires revision.

How Wrong is Done.—An individual or a community expend time and money on the diverting of a water supply (a supply which had previously for all recorded time wasted itself in the sands of an uninviting desert), distribute it upon the thirsty land, thereby enabling it to produce food for themselves and their families, their flocks and their herds, and by so doing demonstrate that lands theretofore of little or no value would prove of great value when provided with water; and other communities follow the example of the first until all the obtainable water is exhausted. But there is land and more land, held by parties who stood by and watched while the others worked; then the watcher, cogitating upon how in the most easy manner he can transfer the reward of the industrious worker to his own treasury, takes up the riparian rights law, finds that it just suits his case, and at once hies him up the creek, procures a strip of land on the banks thereof (it may be but 50 feet wide); thereby becomes a riparian owner and proceeds to divert from the creek all of the water and conduct it to his own lands, thus robbing the originator or prior appropriator of all the benefits that ought to have followed his labor and enterprise.

Should be Amended.—Should not laws that support or permit the working of so much injustice be changed? It appears that the Constitution of this State was framed and adopted at a time when irrigation matters were of small importance, the uses of water for that purpose receiving little attention from the framers of that instrument.

The lack of knowledge or forethought has cost the people so much in the way of time and money spent in the courts, that one can but marvel that the people, from either apathy or ignorance having failed to take the question up, their legislative great men, the jobbers and chinners, if unable to originate or devise suitable laws, have not long since introduced and enacted copies of laws which have been found practicable and highly useful in the meting out of justice to all parties, whether they be water barons or land barons.

I suggest to you the propriety, yea, more, impress upon you the necessity of taking immediate steps to change the prevailing conditions, even to the extent of amending the Constitution of the State, if that be necessary.

Will There be Too Much Produce?—When this matter has been satisfactorily disposed of, the reservoir, submerged dam and other matters may be taken up. The subject will be found sufficiently perplexing to the most able and experienced among you, and the signs of the times and the propaganda established and maintained mostly by dry land barons, will soon be a burning question among not only irrigators, but among the greater number, the non-irrigators, as they also are parties in interest.

Will communities that are now struggling to wrest from copiously rained upon lands a bare existence, and in that struggle producing such a surplus of cereals that the market or selling price thereof remains in these prosperous times altogether too close to production cost to afford them hope of success, consent to be taxed in order that fiercer competition may confront them?

I assume that it is within the knowledge of all that millions of acres of such rained upon lands: lands fine as can be found in the world, are to-day purchasable at prices much below the acre cost of providing by storage reservoirs and canals, water to irrigate the same acreage of unirrigated, arid desert lands now owned by the government.

And the people of these valleys, yourselves, how will you deal with this momentous question? Have you considered it at all? If not, should you longer neglect it? You, having spent in money and labor to procure water for your lands, more than twenty times the original value of the lands, should surely have a good deal to say regarding the possible curtailment of your supply of that necessary element and an increasing competition in the marketing of your products.

Why Ask These Questions?—Do not suppose for a moment that either a lack of enterprise, or a desire to block the wheels of progress, inspires these questions. My desire is to place before you the other side of the question, and if possible, open your minds and prepare you for the consideration of a more practical, more beautiful means of reaching the desired end—a more permanent supply of water—by encouragment of plant growth on the slopes of various watersheds, and preservation of the forest trees and undergrowth. To accomplish this, you must by concentration of effort endeavor to arouse the apathetic minds of both the people and Government, bring to your aid every organization and combination, whether of capital or brains, until you have so disturbed the slumbers of the powers that be that they will awake and work. That somnolence and inadequacy of effort prevails, is attested almost nightly by the dancing flames that mark the destruction of our most noble friends, the giants of the forests.

Save, oh save these; on their preservation depends your future welfare. Let the energies of the State and General Governments be directed to the preservation of the civilizations already established in the semi-arid regions, before attempting the establishment of others in the entirely arid.

Let them clothe the naked hills and dales with whatever variety of tree is best adapted for the particular location, and in localities that are at present too dry to sustain trees, desert shrubs or grasses, and shortly thereafter trees will thrive even there.

The modifying effect of trees on climates, particularly on the winds, is so well known that were the hills clothed with them, the winds of winter, the frosts of spring or drouths of summer would bring no quakes to the heart of the husbandman of the valley. Relief from these quakes would be an unmixed blessing to all, the land barons not excepted.

THE POULTRY YARD.

Shall the Poultry House be Floored.

This is another question which has received the attention of the West Virginia Experiment Station: The poultry house, as first constructed was floorless, and the fowls were obliged to stand upon the damp clay, either within the house or out in the yards. It was determined to make a comparative test of floored and unfloored pens. Accordingly, all but three of the pens were floored with rough boards, the floor being from 2 to 3 feet above the ground.

Three breeds of fowls, Blue Andalusian, Brown Leghorn and Black Langshans, were selected to determine whether they would actually be better in the floored pens. The fowls of each breed were separated into two similar lots, one of which was placed in a floored pen, and the other in an unfloored pen.

The composition of the food for the six different flocks was the same. An accurate record was kept of the amount of food eaten; the number of eggs laid and the weight of the different flocks. The general health of the fowls was also carefully watched. The experiment was conducted for five months, beginning November 24th, thus covering the most trying months of the year.

The three flocks kept on the floor laid 10,859 eggs, while those on the ground laid 13,948. This result was quite contrary to expectations, and can be explained by the fact that the unfloored pens seemed to be somewhat warmer than the others, as the water in the drinking dishes would sometimes freeze, while in the unfloored pens it seldom did so.

Quite contrary to expectations, too, the health of the fowls in the unfloored pens remained almost perfect during the entire test. Only two fowls died of the roup, one from a floored and the other from an unfloored pen, and there was no other sickness of any kind.

In conclusion it may be said that although a single test cannot be considered decisive, and the Station expects to duplicate this work at some future time, yet the results indicate that fowls can be kept equally as well upon the ground as upon a board floor. In building poultry houses it probably would be wise to raise the level of the dirt floor by first applying a course of six or eight inches of cracked stone or gravel, and then covering this with a layer of dirt. Such a floor would always be perfectly dry, can be cheaply constructed, and probably would be satisfactory in every way.

The second year the experiment was repeated and the result again showed that fowls remain in as healthy a condition, and lay as many or more eggs when kept in unfloored houses, as they do when kept in houses provided with floors.

By the time a man gets his sheep through the Government reservations he will wish he hadn't any sheep or hadn't tried to get them through. In order to get through he has, first, to furnish the complete abstract of title of the land he wishes to reach; second, to show proof that he is the owner or lessee; third, to state the number of sheep and the proposed route. If this showing is satisfactory in Washington, an escort of rangers will conduct him to the described tract. If thereafter found straying from it, the sheep will be driven from the reserve, and the herders and owners will be liable to arrest.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

HAY CROP.—Livermore *Herald*, Sept. 16: Hay shipments came to a standstill this week, not because there was no more hay to ship, but because of a scarcity of cars. It is said that there are 500 cars in the Oakland and San Francisco yards waiting to be unloaded. It is estimated by conservative men that the yield of this end of the valley will aggregate 35,000 tons. The hay shipments from Livermore station during the month of August amounted to 4,555,200 pounds.

A GOOD VINTAGE.—*Herald*, Sept. 16: J. B. McNally and C. A. Bon, two veteran vineyardists and wine makers, have made the round of all the vineyards in the valley during the past week, and, all things considered, they give a very flattering report of what they saw. The vineyards, with a very few exceptions, are in fine condition, notwithstanding two dry seasons. Mr. McNally declares that during his long residence in the valley he has never seen a summer equal to the present for developing a grape crop. Owing to a dry winter and late frosts, the prospects at the beginning of summer were far from hopeful, and in fact a failure was freely predicted. Week after week of cool, damp weather, however, developed both the vines and fruit, and at precisely the right stage of development the cool weather ceased and a warm, dry spell followed which has given the necessary sugar to the grapes. This last process has been perhaps a little too rapid; but, taken altogether, it is eminently satisfactory. Both gentlemen agree that the crop will be about equal in quantity to that of last year, while the quality will be far better. Grape picking will begin at Olivina and Ruby Hill on Monday of next week, and the other vineyards will begin operations soon afterward.

Contra Costa.

RECLAMATION WORK.—Seven dredgers have commenced constructing a levee around 16,000 acres of land west of Stockton, between Trapper and Whiskey sloughs, on Old river. It is opposite Victoria island, but is in Contra Costa county. The work of levee building will be much easier at this season of the year than it would be later, as the water is so low that very firm dirt can be secured. The owners expect to have it entirely dredged before high water, so that the expense of draining and pumping out the surplus water will not be so great. This is the third big piece of land that John Herd has purchased and spent thousands of dollars reclaiming.

Fresno.

NEW DRIER.—*Republican*, Sept. 14: Contractor Smith has just completed for Captain W. A. Nevills at his La Favorita vineyard a large drier—the largest in the valley. It is 300x80 feet and will accommodate at a time 10,000 trays. The Owens drier system will be used.

DISTRICT FAIR.—*Republican*, Sept. 14: The directors of the Fresno Agricultural district (the twenty-first), including Madera, held a meeting yesterday, at which the following named were present: George Roeding, J. M. Griffin of Madera, J. G. Roberts of Madera, W. H. Hodgkin, F. P. Wickersham, Charles Garrett, Lee Blasingame. The following officers were elected: Lee Blasingame, president; J. M. Griffin, vice-president; A. J. Hudson, secretary; A. C. Telfer, treasurer. After organizing the directors went into executive session with the directors of the Fresno Trotting Association, and it was decided to hold the fair at the fair grounds from the 9th to the 14th of next month.

Kings.

NEW POULTRY COMPANY.—Hanford *Sentinel*, Sept. 14: The directors of the Halford Poultry Co. elected officers as follows: W. A. Crawford, president; George Kelly, vice-president; Harry Widmer, secretary; J. O. Hickman, treasurer; D. H. McCord, superintendent. It was decided to begin operations immediately by putting up four large incubators with a combined capacity of 1200 to 1500 eggs. The company expects to have chickens on the market within ninety days.

CANNERY BUSINESS. — *Sentinel*, Sept. 16: Fontana & Co.'s fruit canning establishment in this city closed down for the season tonight after a successful run of sixty-nine days. Mr. Philip Bush furnished the following figures: The total amount of goods put up was about 81,600 cases, divided as follows: Apricots, 21,000 cases; grapes, 5000; nectarines, 600; peaches, 40,000; pears, 15,000. This fruit filled 1,750,000 quart cans and 96,000 gallon cans. The cannery handled 450 tons of apricots, 120 tons of grapes, 20 tons of nectarines, 400 tons of Freestone peaches and 450 tons of pears, a total of about 2090 tons in all. The money paid for fruit of various kinds approximated $45,000, and that expended for labor in the cannery was about $27,000. The amount of sugar consumed in the pack was about 4000 sacks of 100 pounds each.

Los Angeles.

GOOD RETURNS FROM ORANGES.—Pomona *Progress*: The following is cited as an instance of what good care will do in the line of orange growing: D. F. McLeod, who lives on a two-and-a-half acre place in the Packard Orchard Grove tract, has 100 Valencia Late and sixty Washington Navel trees, all ten years old. During the past season he delivered at the Pomona Exchange packing house 32,770 pounds of fruit, for which he received $1039.36. Up to the past year, when it was treated with potash and superphosphate, the orchard had been fertilized with stable manure.

Merced.

NEW CREAMERY.—*Sun*: The new Fountain City Creamery, of which C. H. Schmidt is superintendent, began operations on August 26th. The supply has increased to 1500 pounds daily. The price to be paid for milk has not been fixed.

Napa.

HOP PICKING.—St. Helena *Sentinel*, Sept. 14th: Messrs. Dowdell & Son are experiencing difficulty in securing people to gather their large crop of hops. They have raised the price of picking from 16 to 20 cents per barrel, or $1.25 per 100 pounds. Free transportation to the grounds is furnished.

Orange.

BACTERIA ON WALNUTS.—Anaheim *Gazette*, Sept. 7th: B. F. Porter was in town some days ago from his home on Orangethorpe avenue, and to a party of friends talked upon the appearance of the black spots on walnut trees, as well as on the nuts. He has made this disease the subject of careful study for some years past. He considers the trouble due to fungoid origin, which makes it very hard to eradicate it, for the reason that when in a dry state, it may be blown in clouds of dust ten, twenty or maybe a hundred miles. So long as the germs remain dry they are harmless, but should moisture be precipitated upon them, they are immediately transferred into living molecules, and multiply so rapidly that thousands appear in an incredibly short time. These attack the trees and the best the orchardist can do is to destroy them with spraying. Mr. Porter says fungus does not attack trees higher up than 16 feet or thereabout, for the rays of the sun destroy them in drying up the moisture in the upper branches. Fungus consequently lodges upon the lower branches, taking lodgement generally upon the northwest corner of the tree, which as a rule gets less sunshine to penetrate the branches than the other portions of the tree. Good scientific pruning will aid to keep the fungus in check, and spraying with Bordeaux mixture will do the rest in keeping the germs in subjection, if not totally destroying them. Mr. Porter has made a study of fungus disease of the walnut for a number of years, and is a well-posted authority upon the subject.

[This disease has been shown to be due to bacteria by Newton B. Pierce, as has already been published in the PACIFIC RURAL PRESS. What Mr. Porter says of its occurrence is of interest.—ED.]

Sacramento.

MIDGET CALF.—*Record-Union*: There is on exhibition in Washington a two-weeks' old calf that is a curiosity. It is only 15 inches in height, measures 21 inches from the tip of its tail to the end of its nose, and weighs but eighteen pounds.

San Bernardino.

BEETS CONTAIN MUCH SUGAR.—Chino *Champion*, Sept. 17: Tuesday was the banner day at the factory, when 778 tons of beets were sliced in twenty-four hours. It is said that the inquiry for beet pulp is so great that there will not be enough to supply the demand here this year. The beets continue to show very high sugar percentages, an average of over 17% being maintained.

WATER DEVELOPMENT.—Redlands *Citrograph*, Sept. 16: The Horticultural Commission in its last monthly report submitted the following figures regarding the water development in that county: "This being the dryest season that southern California has seen since it became of much importance as a fruit growing section, we decided to make out a report as full as possible of the water developed for orchard irrigation in this section in the last year, and accordingly we collected the following: Beginning at the western end of the county we have for the district of Ontario 600 inches; Cucamonga, 179; Rialto, 701; Colton, 500; Highgrove, 200; Highland, 167; Redlands, including Crafton, Mentone, Victoria, Mound City and Mission, 1200; or a total of 3547 inches. This is a report that this county can well be proud of, for at the beginning of our present dry season it looked as if a good many of our orchards would necessarily dry out, but instead can truthfully say they are looking better than they did at the same time last year and there will be but little fruit lost, and not a tree in the county will of necessity die from want of water.

CITRUS FRUIT ASSOCIATION'S REPORT.—*Cucamonga*: The Cucamonga Citrus Fruit Growers' Association makes the following annual report of business: The shipments for the season were 24,367¼ packed boxes, making a total of eighty-one carloads, about four cars less than shipments of last year. The total receipts are $40,777.35, of which $9775.75 went for expenses and $30,871.21 for dividends, leaving $130.39 as cash on hand. The net expense for the past season was $8620.40, which represents the entire cost of receiving, brushing, packing, shipping and management. The cost per box was: Windfalls, 40 cents; second season, 35½ cents; Washington Navels, first season, 34 cents; half boxes, 45 cents per whole box. The percentage of fancy fruit is much lower than that of last year, while that of third grade, or "standards," is much greater. The "northers" and cold weather shrank the estimated crop about one-third, while that shipped was more scarred and unsightly than usual. It cost more to pack, ran a larger proportion of small sizes, and yet, notwithstanding all these drawbacks, there is much gratification in the study of prices paid the grower, as compared with the statement of former years. There were 1,612,802 pounds shipped last season, with $26,996.15 paid in dividends. There were 1,564,133 pounds shipped this season and the dividends paid amount to $30,871.21, or 48,669 pounds of fruit less than last season, while the growers have received $3875.06 more.

San Joaquin.

RYE CROP.—Stockton *Mail*: In southern San Joaquin the rye crop about equals the combined crops of wheat and barley, and the growers claim that they make as much money as is made by farmers raising either of the two other cereals. Rye requires no preliminary plowing in sandy soils. It is merely sown and worked into the ground with disk harrows. Considerable time and labor are thus saved. It thrives with less moisture than wheat or barley and matures much earlier. Besides that, it yields a heavier crop than wheat or barley on light soils and furnishes grazing besides. The grower turns his stock into the field and "feeds the rye off" before letting it head, as it is claimed that it produces a larger crop by so doing. In more compact soils, such as adobe, and in very rich soils, such as those of the reclaimed lands, rye could not be grown successfully, and it would be too rank and produce stalk at the expense of the heads. The acreage of this cereal in the southern part of San Joaquin county is larger than ever before.

San Luis Obispo.

BEET EXPERIMENTS.—*Breeze*: The sugar beet experiments are all, so far as heard from, proving successful. The E. W. Steele estate is among the experimenters. The manager of that property planted forty acres in sugar beets. The crop is nearly ready to harvest, and a test of the beets has been made at the Betteravia factory. The result is very gratifying. The analysis shows 18.3% of sugar and a purity coefficient of 88.7. The yield will run upwards of twelve tons to the acre. The Betteravia factory pays $3.25 per ton for beets running 12% of sugar and 25 cents for each per cent above 12. At that rate, the Steele beets will bring $4.75 per ton at the factory, or $4.50 at the cars.

Santa Clara.

FRUIT NOTES.—San Jose *Mercury*, Sept. 17: The prune harvest is rapidly drawing to a close in the vicinity of Campbell, and Saiway and other late varieties of peaches, of which there is a good crop, are being shipped in considerable quantities. The weather is exceptionally favorable for curing and harvesting of all kinds of fruit. Even the grape growers are well pleased with the situation, as the prevailing warm weather gives the berries the required percentage of sugar. In some of the vineyards, situated on warm and early soil, the cutting of grapes was commenced a few days ago.

Santa Cruz.

DEMAND FOR APPLE CORES AND SKINS.—Watsonville *Pajaronian*, Sept. 14: There will be little or no waste in cutting and paring apples at the evaporators. There is a heavy demand for cores and skins at from $20 to $25 per ton when dried. The dried cores and skins are called for by the European trade, and they are used largely in the manufacture of jellies. Heretofore the cores and skins have been treated as waste.

Solano.

POOR PACKING.—Vacaville *Reporter*, Sept. 16: Every day we are reminded that there is bad packing of fruit done in Vacaville. If the fruit grower hurt himself alone, it would be more a matter of indifference. In fact, he not only injures himself, but pulls down the general scale of fruit prices in the Eastern market. The time should come when the Vacaville brand on a box of fruit should guarantee the quality of the goods packed. It does not, as everyone well understands. There are shippers—not a few, either—who pack with absolute uniformity, and whose brand is standard in any Eastern city. These men make money every year. The moral, as Captain Cuttle would say, lies in the application.

RETURNS FOR FRUIT.—Vacaville *Reporter*, Sept. 16: Edward Fisher, cashier of the Bank of Vacaville, informs us that up to the present time the amount of money received for fruit sent East, and for which payment was made through the Bank of Vacaville, aggregated $503,000. It is probable that the amount received through other sources will aggregate $100,000. With a total up to the present time of $603,000, we may expect the grand total to exceed $750,000.

FRUIT SHIPMENTS.—*Reporter*, Sept. 16: The shipments of fruit East up to Wednesday were 625 cars Up to this date the total will be at least 640 carloads. Careful estimates make the total number of cars of green fruit for the remainder of the season 100. San Francisco and other local shipments will be a little in excess of 100 carloads. This will make the total shipments for the season 840 carloads of green fruit. Of dried fruit the output will be about 260 cars. This will bring the total for the season to 1100. It is a good showing, taking everything into consideration, and one which has proved remunerative to fruit growers and shippers.

Sonoma.

HOP PICKING RECORD BROKEN.—Santa Rosa *Republican*, Sept. 14: Ben Luebberke, the erstwhile champion hop picker of Windsor vicinity, has had his colors lowered by Constable Sam Gilliam. Gilliam has been picking on the Farmer place near Forestville, and his record exceeds that of Mr. Luebberke by three pounds. The record of the latter is 350, and that of the former 353.

GOOD GRAPE CROP.—*Republican*, Sept. 14: The grape harvest of 1899 is now fairly launched. Picking was commenced in many vineyards in the northern part of the county Monday morning, and it is expected that before the end of the week nearly all the wineries in that section will be in operation. Some weeks ago the opinion was freely expressed that the crop this year would not be nearly so large as that of last year. It is now conceded, however, that the crop is equal to if not a little better than that of a year ago. The grapes are large and will make wine of splendid quality. The market is the best in years. There are buyers in the field and they are after grapes, too. Prices range from $12 upward. Fourteen dollars is the usual price for "usual" grapes, but sales have been made at prices in advance of that figure.

Sutter.

HARVESTING BUCKWHEAT AND ALFALFA SEED.—Yuba City *Farmer*, Sept. 15: H. P. Harrison, of Cranmore, is refitting his harvester for threshing alfalfa seed and buckwheat. The machine will be operated the same as in wheat, with the exception that the alfalfa and buckwheat, which is piled in the field like hay, will be hauled alongside the harvester and fed into the machine as it travels around the field. There will be quite a good output of those crops along the Sacramento river this season.

Stanislaus.

ALFALFA DISPLACING VINES.—Modesto *Herald*, Sept. 14: The Acme Creamery, Newman, disbursed $4500 to its patrons last week, on August account: The profits to the farmers may be further gleaned from the fact, for instance, that one of them, Frank Silva, realized for the month an average of $5.16 from each of his cows. And the farmers all receive their skimmed milk, which is fed to hogs and calves and returns another profit equal to if not exceeding the cost of milking. Indeed, the shipment of hogs from the creamery belt is reaching surprising figures. Large shipments of poultry, too, are being made. The New Era Creamery is distributing but little less money monthly than the Acme Creamery; and the new creamery at Los Banos is likewise doing a fine business. The alfalfa acreage all along the line is being heavily increased. The Orestimba vineyard property is to be turned into an alfalfa field this winter, to which end all the vines have been removed.

Tehama.

LARGE GRAIN GROWERS.—Red Bluff *Cause*: The following is the number of sacks of grain that have been harvested this season by the persons named: John Finnell & Sons, 35,000; Chas. Tait, 30,000; D. S. Cone, 40,000; A. Gallatin, 15,000; P. C. Crumbough, 7600; Chas. Hesse, 7200; J. M. Howell, 4000; W. H. Gurnsey, 2700; Henry Clark, 4000.

Yolo.

GRAPE PROSPECTS.—Woodland *Mail*: E. R. Snavely, proprietor of the Woodland Winery, anticipates a very prosperous year for both grape growers and wine makers. He said that everything pointed that way at present. There is an abundance of grapes and the season has been most kind. The grapes have matured beautifully and the quality is excellent. Regarding the current report that grapes this year are deficient in sugar, Mr. Snavely said that he had been making tests for the past two weeks and had found that on the contrary the sugar percentage is unusually favorable. He has a number of tests on exhibition and they average 23½% sugar, ranging from 19% to 26%. Regarding local prices Mr. Snavely said that local wine men are offering $13 per ton for Zinfandels, $9 for Muscats and $12 for seedless, delivered. It is understood that Sacramento grape buyers are offering $14 for the former delivered in Sacramento.

Yuba.

HOP PICKING FINISHED.—Wheatland *Four Corners*, Sept. 16th: Hop picking in the Wheatland yards is a thing of the past. The last hops were sacked in the D. P. Durst yard on Thursday. The Horst and Woods yards finished a few days before. With the completion of picking the grower will have an opportunity to figure on his yield and it will be found that the whole Bear river crop averaged above a ton to the acre—the largest crop for four years past, and an increase of 40% over the crop of 1898. The quality of the first picking is excellent. Had pickers been plentiful the crop would have been harvested two weeks earlier, and all would have been excellent.

STOCK SALES.—Red Bluff *Cause*, Sept. 9th: An important sale of sheep, and probably the largest single sale that has taken place in the county, was consummated Friday. Maj. Ward purchased the sheep belonging to Mrs. Maggie Wilcox, consisting of 4400 head. The band is a very good lot of sheep and the price paid was $2.50 per head. Bands of beef cattle have been arriving here every day lately from the Battle Creek country. They are in fine condition and are destined for the San Francisco stock yards. A great many people who live in the Battle Creek section have sold, and so far about 800 head have been driven down, leaving but few more to be disposed of. The price paid has ranged from 6¾ to 7⅛ cents.

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is
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ELGIN Watches keep accurate time.
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THE HOME CIRCLE.

Walls of Corn.

Smiling and beautiful, beaven's dome
Bends softly over our prairie home,

But the wide, wide lands tbat stretched away,
Before my eyes in the days of May,

The rolling prairie's billowy swell,
Breezy upland and the timbered dell,

Stately mansion and hut forlorn,
Are all hidden by walls of corn.

All the wide world is narrowed down
To the walls of corn, now sear and brown.

What do they hold—these walls of corn,
Whose banners toss on tbe breeze of morn?

He who questions may soon be told,
A great State's wealth these walls enfold.

No sentinels guard these walls of corn,
Never is sounded the warder's horn.

Yet the pillars are hung with gleaming gold,
Left all unbarred, tho' thieves be bold.

Clothes and food for the toiling poor,
Wealth to heap at the rich man's door;

Meat for the healthy, and balm for him
Who moans and tosses in chamber dim;

Shoes for the barefooted, pearls to twine
In tbe scented tresses of ladies fine;

Things of use for the lowly cot,
Where (bless the corn) want cometh not;

Luxuries rare for tbe mansion grand,
Gifts of a rich and fertile land;

All these things, and many more,
It would fill a book to name them o'er,

Are bid and held in tbese walls of corn,
Whose banners toss on the breeze of morn.

Where do tbey stand—these walls of corn,
Whose banners toss on the breeze of morn?

Open tbe atlas, conned by rule
In the olden days of the district school,

Point to the rich and bounteous land,
That yields such fruit to tbe toiler's band.

"Treeless desert," they called it then,
Haunted by beasts and forsook by men.

Little they knew what wealth untold,
Lay bid where tbe desolate prairies rolled.

Who would have dared, with brush or pen,
As this land is now, to paint it then?

And how would the wise ones have laughed in scorn,
Had prophet foretold these walls of corn,
Whose banners toss on the breeze of morn!

—Ellen P. Allerton.

Confidence.

If poverty does not render a man morbid it makes him gentle and kind-hearted. That is what it did for Jonathan Harrod. In the early days we had roomed together in college—I was going to say slept together, but Jonathan seldom slept. He smoked and drank coffee and worked instead, and blossomed into a winner of prizes. As Jonathan was in love as well as in debt, and just as prone as I to substitute pipes for meals when the larder was low, we learned to love each other during those four year with an affection that was firm and confiding.

Jonathan used to advise me to fall in love, too. "I tell you old man," he would say, when opening a letter of familiar blue, "when you are not feeling well, and the world grates on you like a camel's hair shirt, there is nothing so good as an old-fashioned love letter."

The writer of the old-fashioned missives lived out west, in Harrod's native town, and, although I never met her, I came to known her almost as well as Harrod did, he spoke of her so often. And then I used to watch his face when he read her letters. They must have been tender and sympathetic, but withal a dash of ambition and inspiration in them. No tale of village gossip could have brought that light into Jonathan's eyes nor that flash of color to his cheek. At their conclusion he would dream awhile, perhaps, and then fall at his books and work like mad.

He showed me her picture one night. She was dark—with a high forehead and shadowy eyes. The mouth and chin were both well formed but rather masculine. It was a beautiful face, though not pretty.

Although Harrod had loved the girl all his life—and she him, if there be aught in the signs of the zodiac—they had a misunderstanding of some sort or other during the summer that followed his graduation. When he returned east the following autumn he was quieter than ever before, and, if possible, more gentle and sympathetic. He and I had rooms together, where, in lieu of other inexpensive pastimes, we were wont to spend the evenings working and reading. I saw from the first that something ailed him; and, as he no longer received the blue envelopes, nor counseled me to lose my heart, I guessed the reason and asked no questions. He did not become apathetic—Jonathan didn't. His old habit of work was stronger than ever. And now his stories began to appear occasonally in the magazines, and the dear public to read what went with it.

Two years had passed away before Jonathan had made even the slightest reference to this love affair of his, and that was when he came into my room one cheerless, gray November afternoon, the picture of abject melancholy. In his hand was a crumpled piece of paper. This he placed before me on the table, then he went and seated himself before the fireplace, where I could not see his face. The paper was a clipping from some inland journal describing in florid terms the wedding of Miss Winifred Conover to one Amos Scheneck. Only half the article had been clipped, evidently, and this had been pasted on a half sheet of paper. I read the tawdry effusion through, then I twisted it to prices and dropped it into the waste basket.

"Jonathan, my boy," I said, going over and seating myself on the arm of his chair, "who sent you this thing?"

"I do not know," and there was a world of sadness in his voice, "the envelope was addressed in a strange hand and not a word accompanied it."

We were both silent for a moment. The logs were burning cheerily, outside the wind was plowing a gale. Jonathan sat with his face in his hands. "When I came here to you just now," he said, "I was chilled and lonely—the day is so somber—and I had been tramping all over the country, and—well, I came to say good-by. I wanted to leave this life and wait for Winifred in the next, for"—his voice went straight to my heart—"ah, Billy, I love her so!" I regarded him with compassion. "You lie down here on the lounge before the fire," I commanded him, "and stop this brooding." I pushed forward the couch as I spoke, and he dropped on it like an obedient child. He gave one grateful look, and then, under the influence of the genial warmth and the fatigue of many vigils, fell fast asleep.

There are days in the lives of us all, I fancy, when a vague and subtle sense of mystery invests the commonest objects; when our minds recognize new qualities in common things; when the look in the eyes of a child, the glint of sunlight in a woman's hair, the sound of a distant church bell, stir feelings deep within us we have never known before. That afternoon there was a white carnation in the vase on my writing table, and as I sat there pondering Jonathan's sorrows its perfume stole into my brain like a sweet and potent anodyne. It conjured up visions as fair as the dreams of Dr. Faustus, and yet—and yet, there was a sense of foreboding, a premonition of something about to occur.

Whether or not I dozed I cannot say, but suddenly I was aware that someone other than Jonathan was in the room and that he was wide awake and looking at me intently. I raised my eyes, and there to my infinite surprise and astonishment, I saw standing opposite me, across the table, a stylishly gowned young woman.

I started to my feet with an apology on my lips, but as I glanced at her face my tongue was tied and I remained silent. She was dark and with a high forehead and shadowy eyes. The mouth and chin were both well formed, but rather masculine. And she was beautiful, though not pretty.

"Miss Conover!" I exclained.

"Yes," she answered, with a voice that was low and vibrant, "it is I." Then, with her brown eyes fixed on the white carnation and the color mantling her cheek, she continued. "I have just arrived in the city. Yesterday I learned that an ancient enemy of Jonathan's sent him a paragraph from an account of cousin's wedding, and—the color increased, then quickly subsided—knowing Jonathan so well, I wished, if possible, to see him before the clipping reached him. And—you see, I knew you also knew him well." Her lips close tightly for a second, then curved into a smile. Two great tears started from beneath the dropping lashes, but were quickly intercepted.

I looked toward the place where Jonathan lay. A screen was between him and the visitor, and only his soft respiration betrayed his presence. I turned to Miss Conover.

"Jonathan loves you," I said. "Do you love him?" Her eyes flashed with a womanly luster, but again her lips were firm. "For if you do," I exclaimed, pulling aside the screen with a single, swift movement, "he is here."

"Jonathan!"

Then as I left the room I looked back and saw her kneeling at his side—Perley Poor Sheehan.

Good Sense in Marriage.

The ideal marriage is not the result of any arts or artifices on either side, it is the result of commanding emotion on both sides sanctioned by good sense, says Helen Watterson Moody in *Modes and Fabrics*. The man who marries a woman or the woman who marries a man out of any other motive than that he or she sees no other way to be happy, takes a greater risk than I, for one, or any sane person should wish to take. Observe that I say, "no other way to be happy." For of that one should be sure first. The mere fact that two persons love each other is by no means an assurance that they will be happy in marriage. It is much the fashion to consider that love is a kind of divine madness whose impulses one is bound always to trust and obey. How many times have you and I known the most unpropitious and disastrous engagements accepted with the hesitant reflection, "Oh, well! if they love one another." But some of the most unhappy and even tragic marriages I have ever known have been those in which the young lovers were at the first profoundly in love with each other. This leads me the to sincere belief that love is only one of the necessary ingredients of happiness in marriage, though it is, to be sure, the one which we cannot reckon without. I would counsel young women to take account of many other things than love in considering an offer of marriage—good character and a serious purpose in life, and an instinct for unselfish consideration for others. These, too are things that are needed to make a happy marriage quite as much as love. It has been my observation that a great many so-called happy marriages are seriously marred on the inside by flaws in the character which could be remedied by a little understanding of the importance of it and a determined purpose to make marriage as happy as it should be. Such faults as these are selfishness, distrust, pernuriousness, bad temper and intemperance. No girl's happiness is safe in marriage with a man in whom any one of these is a dominant trait, no matter how much they may love each other.

MASTICATION does not separate fresh bread, but condenses in into a soft, doughy, glutinous mass, very difficult for the saliva to affect. In weak stomachs, the saliva-coated ball, like any foreign body, irritates the stomach and brings on indigestion. If the person is strong and has plenty of outdoor exercise, the new bread is finally digested, but the effort of digestion is greater than it should be, and is liable to overcome the strength and produce more or less of trouble. Stale bread is more "crumbly" and does not stay together so firmly in a sticky mass.

Fiddle-Dee-Dee.

There once was a bird that lived up in a tree,
And all he could whistle was "Fiddle-dee-dee"—
A very provoking, unmusical song
For one to be whistling the summer day long!
Yet always contented and busy was he
With that vocal recurrence of "Fiddle-dee-dee."

Hard by lived a brave little soldier of four;
That weird iteration repented him sore.
"I prithee, Dear Mother Mine, fetch me my gun,
For, by our St. Didy, the deed must be done
That shall presently rid all creation and me
Of that ominous bird and his "Fiddle-dee-dee."

Then out came Dear Mother Mine, bringing her son
His awfully truculent little red gun;
The stock was of pine and the barrel of tin,
The "bang" it came out where the bullet went in—
The right kind of weapon, I think you'll agree,
For slaying all fowl that go "Fiddle-dee-dee."

The brave little soldier quoth never a word,
But he up and he drew a straight bead on that bird;
And, while that vain creature provokingly sang,
The gun it went off with a terrible bang!
Then loud laughed the youth. "By my bottle," cried he,
"I've put a quietus on "Fiddle-dee-dee!"

Out came then Dear Mother Mine, saying:
"My son,
Right well have you wrought with your little red gun!
Hereafter no evil at all need I fear
With such a brave soldier as You-My-Love here!"
She kissed the dear boy. (The bird in the tree
Continued to whistle his "Fiddle-dee-dee!")

—Eugene Field.

September.

Earth is all in splendor drest;
Queenly fair, she sits at rest,
While the deep, delicious day
Dreams its happy life away.

—Margaret E. Sangster.

How Do You Walk?

A graceful carriage is obtained by first knowing what to avoid. Go out in the street and notice the walkers in front of you. See the lady that waddles so along the street that you are reminded of ducks. Observe the man beyond her how he racks from side to side. Notice the young lady who raises her head and throws back her shoulders, and walks as if her spine were a bolt of iron running into her head, stiff even to her fingers.

Observe the young man who, while all the rest of the body is manly, droops his head in a sheepish way. Or note the other one opposite, who, with head thrown far back, becomes rather a strut; or whose head is thrown high as to give it a rankish air. Observe the fingers spread out as if he had accidently got his hand into the butter or something sticky, while the one in front makes his hands into fists.

Watch the motions that give the ungraceful poises, and endeavor to correct them by the law of opposites.—Health.

A Characteristic of Great Men.

"So far as I have encountered them," said a citizen of the world, "a characteristic of great men is that they have time. They are not in a hurry; their work doesn't boss them, but they boss their work. They don't act as if every minute they stayed was valuable time lost to them; they don't fret and fidget. What time they do devote to you appears to be time that they can spare, and take things easy in, and be comfortable. The work seems to be incidental, and it seems as though they could turn to it when the time came and get through it with ease; and they always seem, besides, to have strength in reserve. It is a characteristic of the great man that he has time."

DR. KELLOGG says that the child is born using both hands, arms and legs equally well. Right handedness is the result of careful training on the part of nurse and parent. Left handedness is probably started by a burn, strain or injury of the right hand during the critical period of babyhood.

Care of Clothes.

Have you ever sponged and pressed a garment with the greatest possible care, only to find the spots reappear the first time the garment receives hard wear? This is because it was not thoroughly dusted beforehand, or because the cleansing preparation was left in the goods. This last is a great mistake, as it leaves the spot very susceptible to soilure. The suds, ammonia or whatever was used should be removed as completely as the grease, or the result will not be satisfactory. Do this by rubbing the place thoroughly with the cloth wrung out in clear water, rinsing it again if needed.

The best way to dust a garment is to hang it upon the line and whip it with a rattan rug beater, not as vigorously as if it were a tapestry carpet, but with a sharp, quick strokes which will not injure the shape or break the stitches. The bottom of the skirt catches the dust, and on account of the stiff lining retains it most tenaciously, but the rattan will dislodge it in condition for sponging.

Many make the mistake of rubbing a soiled spot in any direction, which causes it to spread; rub only towards the center. When a skirt is sponged for spots, turn it upon wrong side and with the cloth or sponge quite wet, go over the lining lightly, making the seams, also the portions interlined with stiffening, quite wet, and iron with hot irons, keeping the seams flat and being careful not to iron any wrinkles in the material of gown. Finish the pressing by ironing a fold in the middle of front gore, that trifle that always marks a new gown; it is a pardonable deception.

The bodice or jacket, being more complicated, needs different treatment, as the entire surface cannot be pressed. First, see that the linings, wrists and choker do not need replacing. If very soiled, it is better to rip them out and put in fresh ones, than to try to cleanse them by sponging.

After dusting and shining the spots, hold all shiny places, also the creases formed by bend of the elbow, over a steaming tea kettle, which will effectually freshen them. Dampen the lining and iron carefully, following the boned seams with the sharp point of the iron, under the bones; if ironed flat upon the bones the impression would show through the bodice and spoil the work. Iron sleeves upon the wrong side where they are plain, then turn and slip the small polishing iron into the arm size and move it up and down cautiously among the fullness to prevent creases.

Fancily garnished sleeve tops cannot be treated in this way, but can be somewhat freshened by steaming. Finish the waist by pressing choker, wrists and bottom very flat, pressing upon the wrong side.

In freshening jackets and coats do not put the iron directly upon the lining, but use a thin cloth between, to prevent the objectionable "shine" that follows. It is also best to remove the buttons while the fronts are being pressed.

Old buttonholes may be made to look very neat if basted together before being pressed. After removing the basting the shape will be much improved.

A cleansing paste which has been used with excellent results is made of one dessertspoonful of pearline and a generous half cupful of hot water mixed well, rubbing with the bowl of a spoon, then boiled two minutes. Pour it in a small jar and keep it upon the commode ready for emergency; apply with a damp cloth. This paste is unequaled for cleaning coat collars.

Velvet collars and trimming respond quickly to steam, which raises the nap to look like new. Crushed bows had best be removed, ripped and pressed by seesawing them under a hot iron, then reknotted. Dampen them warily, for the colors are liable to run.—Portland Transcript,

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We may make these times better if we bestir ourselves. Industry need not wish.—Poor Richard's Almanac.

He Didn't Smoke.

Fussy Old Gentleman (to chance traveling lady companion)—"Have you any children, madam?"

"Yes, sir, a son."

"Ah, indeed! Does he smoke?"

"No, sir; he has never so much as touched a cigarette."

"So much the better, madam; the use of tobacco is a poisonous habit. Does he frequent the clubs?"

"He has never put his foot in one."

"Allow me to congratulate you. Does he never come home late?"

"Never. He goes to bed directly after dinner."

"A model young man, madam—a model young man. How old is he?"

"Just two months."

The acids of apples are exceedingly useful through their stimulating influence upon the kidneys, whereby poisons are removed from the body and the blood and tissues purified. The acids of apples are all highly useful as a means of disinfecting the stomach, since the ordinary germs that grow in the stomach, producing biliousness, headache and other troubles, will not grow in fruit juice or fruit pulp.

The most remarkable shawl in the world is one belonging to the Duchess of Northumberland. It is made entirely from the fur of Persian cats, and many thousands of skins were used, the weaving taking several years. Although this shawl is eight yards square, it can be compressed into a space no larger than a coffee cup. It was formerly the property of Charles X of France.

One Reason.

There is one of many reasons
Why summer is best of all—
'Tis the pride of all the seasons,
For it goeth before a fall.

—Judge.

"I'd like to find some business that isn't overcrowded."

"If you do, you'll probably find that there isn't enough in the business to attract a crowd."

DOMESTIC ECONOMY.

Hints to Housekeepers.

For a very easily prepared dish on the salad order there could be nothing daintier and more appetizing than whole tomatoes served with mayonnaise. The tomatoes are dropped in hot water to loosen the skins, which are afterwards very carefully stripped off. Arrange each tomato on a bed of green, pour a spoonful of dressing over it and put away in the ice chest for half an hour before serving.

In making a mould of fruit with lemon jelly, the pieces of fruit should be dipped in a little melted gelatine and pressed lightly against the sides of the mould before the center is filled in. The seasonable fruit—peaches, pears, bananas—are cut into not too small pieces and arranged in the mould. Any small fruits that are in the market may be added. A little lemon, wine or orange jelly is whipped to a froth, just as for lemon snow, and piled lightly in the mould in layers that alternate with those of the fruit. When the mould is full, it should be set on ice, so that its contents may be thoroughly chilled before serving.

Never give a child food to stop its crying. If you feed it regularly, and give it proper food, it need never cry because it is hungry. She is a very foolish mother who will give her child an opportunity to cry from such a cause, and must be anxious to tend a peevish baby. If you have fed it properly, and it cries, it is not because it wants more food, but for some entirely different reason. To be sure, more food may serve to stupefy it, rendering it less conscious of its trouble, but is that a wise course to pursue? Usually it cries again when it recovers from its stupefaction, and either it must be stupefied again, or means must be adopted that should have been used in the first place, and which would not have tended to give the child objectionable habits.

Chutney is an English or East Indian relish much esteemed for bon vivants. It is an expensive thing to buy, but can be made at home at small cost. A hasty mint chutney can be prepared fresh as needed, and is usually preferred in summer to the Cashmere chutney. It is made in this way: Take a handful of fresh mint, a cupful of raisins, one of chillies, or the little red peppers, a half teaspoonful of salt and two tablespoonfuls of sugar. Put these ingredients into a mortar and pound until the mixture is juicy and soft. Stir and pour into a pretty glass or china jar. No cooking is required, and it will be found an admirable relish with cold meats.

A cheese souffle that is much in favor as an entree may be made in the chafing dish or in a souffle mould as preferred. Melt one ounce of butter in a saucepan and stir in a full tablespoonful of sifted flour. Add by degrees a half cupful of warm milk and stir until the mixture thickens; season with salt, pepper and a little cavenne and remove from the fire. When the mixture has cooled a little, add the yolks of two eggs, one at a time, then stir in three ounces of grated cheese (Parmesan preferably), and lightly mix in the whites of three eggs, whisked to a stiff froth. Pour at once into a buttered souffle mould, and bake in a quick oven for from twenty to thirty minutes, or cook in the chafing dish blazer over the hot-water pan for the same time, closely covered.

Every good housekeeper who enjoys the light from a good oil lamp should keep always on hand a little brush to clean the holes in the burners—the lungs of the lamp. The lamp should be taken apart every day. That is, it should be opened to allow the gas to escape, and then carefully filled. There is no danger of an explosion if this is done. The reservoirs should be washed out once a week to insure a clear flame. When the lamp is put out the wick should be turned down low and the flame blown out across the chimney. If the wick is turned down below the tube when the lamp is not lighted, the wick will not feed over the edge and there will be no odor. It is never necessary to do anything more than to rub the wicks to take off the black crust that forms at the top. If the wicks become gummy they can be soaked in vinegar and thoroughly washed and dried. Chimneys may be tempered by putting in cold water and allowed to come to a boil. In lamps where the reservoir is glass, a little coarse rock salt makes the oil give a clearer light, but it must not be used where there is anything that will rust.

Use Glass or Stoneware Dishes.

A recent case of poisoning emphasizes again the danger of keeping foods or milk in dishes of metal. It would seem as if enough accidents had occurred to make all persons know that eatables should not be set away in tin or copper, says the Gardiner *Reporter-Journal*. Cases of poisoning from foods kept in glass or stoneware are unknown, but there is often something in food which acts upon the metal—or vice versa—and produces poisoning. Oysters and fish often owe unhealthy effects to this cause, even when they are not strong enough to be called cases of poisoning. Every housekeeper should direct and insist upon the order being followed, that all foods and drinks should be kept in glass or crockery. Her family's health will be the better and more lasting for following this one easily learned rule, and she may avoid a tragedy simply by this one thing.

Six Uses for Salt.

A good sized pinch will clear coffee. A pinch after meals will aid digestion. A teaspoonful in a glass of water makes a fine gargle. A teaspoonful in a glass of lukewarm water is good for bathing tired eyes. A tablespoonful in a basin of water, when washing matting and wicker furniture, prevents them from turning yellow. To brighten and retain color of cambric, gingham, hosiery, etc.: After washing and rinsing, lay in tub of water, in which one-half cup of salt has been dissolved. Dry in shade and iron on wrong side.

Domestic Hints.

Scalloped Tomatoes.—Pare and slice; scatter fine crumbs in the bottom of a bake-dish; cover with slices of tomatoes, seasoned with sugar, pepper, salt and butter; cover with crumbs and then with tomatoes; fill the dish in this order, covering all with crumbs, with bits of butter sprinkled upon them. Bake, covered, half an hour and brown.

Toast for Garnishing.—For poached eggs cut the bread into rounds with a large cake cutter before toasting. For small birds or asparagus remove the crusts and cut into oblong pieces. For minces and fricasees cut into small squares or diamonds. For a border, cut, after toasting, into inch and a half squares, and then into halves diagonally, making triangles.

Cherry Pie.—Line a tin with a good crust, brush it over with white of egg to prevent soaking, and fill with fresh, pitted cherries. Sprinkle over with one-half cup of sugar and half a spoonful of flour. A few cherry pits are sometimes added. Cover carefully and bake in a brisk oven. Canned cherries answer nicely for pies, but most of the juice should be drained off.

Bean Croquettes.—Boil one cupful of brown beans until well done and dry. Rub through a colander. To this pulp add one cupful of grated bread crumbs, one onion minced, one tablespoonful of parsley, two tablespoonfuls of melted butter, one teaspoonful of salt and two well-beaten eggs. Mix well together, form into cylinders, dip in beaten egg, then in cracker dust and fry in deep fat, draining on soft paper. Serve with a tiny red pepper stuck in the top of each.

Strawberry Balls.—Mix a rich biscuit dough and roll it out a quarter of an inch in thickness, cut it into four-inch squares, put some ripe berries on each square, sprinkle with a very little sugar, bring the corners together, and place them on a buttered tin. Melt one tablespoonful each of butter and sugar in one-fourth of a cup of boiling water, and brush the balls with it. Bake in a hot oven and serve with any sauce preferred.

Okra, Spanish Style.—Wash and cut off the stem ends of one quart of okra pods, but do not slice. Put into a saucepan with one-quarter of a pound of lean raw ham chopped fine, add sufficient good stock and thick stewed tomatoes in equal quantities to cover. Simmer until the okras are tender, adding seasoning to taste. Draw to the side of the fire, add one tablespoonful each of butter and flour rubbed together to a paste; stir until smooth and thick, simmer for five minutes longer, turn into a heated dish and sprinkle with finely chopped parsley.

To Preserve Plums Whole.—To every pound of fruit allow three-quarters of a pound of loaf sugar. To make a thin syrup allow a quarter of a pound of loaf sugar to every pint of water. Select large, ripe plums; slightly prick them to prevent them bursting, and simmer gently for twenty minutes in a syrup made with the above proportions of sugar and water. Put them carefully into a pan, let the syrup cool, pour it over the plums and allow them to remain for two days. Having previously weighed the other syrup, dip the plums quickly into water and put them into a preserving pan with no more sugar than hangs about them, and boil the water to a syrup, carefully skimming it. Grain the plums from the first syrup, put them into the fresh syrup and simmer for half an hour, or until they are clear. Dift them out singly into pots, pour the syrup over, and when cold cover down to exclude the air. Preserved thus, plums are excellent for dessert.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 20, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	70¼@71⅜	—@—
Thursday	71⅝@70¾	74½@73⅝
Friday	70½@70⅞	73½@73⅞
Saturday	71⅜@70¾	74¼@73½
Monday	71⅛@70⅝	73⅞@73¼
Tuesday	70¾@70⅝	73¼@73½

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Sept.	Dec.
Wednesday	5s 8½d	5s 10¼d
Thursday	5s 8¾d	5s 10½d
Friday	5s 8¾d	5s 10¾d
Saturday	5s 8¾d	5s 10¾d
Monday	5s 9¼d	5s 11¾d
Tuesday	5s 9 d	5s 11 d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 10¼@1 09⅞	1 15⅝@1 15¼
Friday	1 09⅞@1 10⅝	1 14⅞@1 15
Saturday	1 09½@1 08⅞	1 15 @1 14⅞
Monday	1 08⅞@1 08½	1 14¾@1 14⅜
Tuesday	1 08½@1 08⅝	1 14⅝@1 14½
Wednesday	1 08⅝@1 09	1 14¾@1 14⅞

Wheat.

All things considered, wheat is holding up well in the spot or sample market, prices being quotably in same position as a week ago, although decidedly bearish influences have been at work in the meantime, conspicuous among them being a stiff market here for ocean freights and a tight money market in the East. Chicago futures declined within the week about 1 cent per busbel. Liverpool options show fractionally better values than a week ago, but this is more than offset by unfavorable ocean freights. In speculative values in this center there was pronounced weakness, December option dropping nearly 2c, while May showed a decline of nearly a cent. At this writing (Wednesday noon) the market shows a fractional recovery from yesterday's lowest figures.

As was to have been anticipated from the trend of reports for preceding week, most of the news concerning wheat has been since last review of a bearish character. The Argentine section is still exporting in tolerably liberal quantity, the present rate being nearly 5,000,000 bushels per month; but with her visible reserve supply available for export footing up only about 6,300,000 bushels, shipments from the section in question cannot long continue of recent proportions. Prospects are reported favorable for coming crop in India and also in Australasia, but it is a long time until harvest in either country, more particularly India, and there is an abundance of opportunity for many changes in crop conditions to take place before the wheat in question will be ready for market. India is now in her early seeding period, or relatively in about same position as California in December. The topography and the climate of the wheat lands of India are much the same as of the San Joaquin plains, and every well-informed resident of this State knows that there can be nothing definite stated of a California crop six months ahead, especially in the San Joaquin, where it is often difficult to prognosticate six weeks ahead with any degree of accuracy. This applies with equal force to India, although the bears to-day are making India's coming crop one of the prime factors in the calculation where they endeavor to demonstrate that wheat is not already low enough. The visible supply in this country was given Monday at 39,332,000 bushels, being an increase of 3,193,000 bushels. Exports from the United States now aggregate 20,000,000 bushels per month, and at the present rate more than the entire surplus as now shown would be forwarded within the twelvemonth, taking the most optimistic ideas as a basis for the calculation. Placing the crop of the United States for current season at 500,000,000 bushels, which is 15,000,000 to 25,000,000 bushels in excess of some of the more conservative estimates, and allowing 130,000,000 bushels for old stock carried over, the exportable surplus foots up 230,000,000 bushels, making no allowance for carry-over reserves, although it is about impossible to drain the country of its entire surplus, especially when prices are low, and to many growers are unprofitable.

California Milling	$1 05 @1 10
Cal. No. 1 shipping, alongside	1 02½@1 03¾
Oregon Valley	1 02½@1 05
Walla Walla Blue Stem	1 05 @1 10
Walla Walla Club	1 00 @1 05
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.10½@1.08¾.

May, 1900, delivery, $1.15⅝@1.14¾.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.08⅝@1.09; May, 1900, $1.14¾@1.14⅞.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s2d@6s3d	6s0d@6s0½d
Freight rates	25@27½s	36¼@—s
Local market	$1.10@1.15	$1.02½@1.05

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

Business in this commodity is not showing much life at present, neither is the market displaying any special or noteworthy firmness. The export movement is of fair volume, but is largely of special brands, previously contracted for. Prices remain quotably as before noted, but market is not firm at these figures, concessions to buyers being the rule rather than the exception, especially where sales of noteworthy magnitude are effected.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

The market for this cereal has continued on much the same quiet lines as during preceding week, with not much trading, either for shipment or on local account. Fortunately for the producing interest, offerings are not particularly heavy, especially of the more desirable grades, and values are in consequence being fairly well sustained, although the market cannot be termed firm. If there were heavy quantities offering, or if there was pronounced selling pressure, values could not be sustained at current levels. Barley has been throughout the season to date, and still is, commanding relatively better figures than wheat. Indications are that most of the surplus of desirable shipping grades has been disposed of, so there is not much probability of prices receding to very low levels during the remainder of the current cereal year. While there may be no further heavy shipments to Europe this season, considerable quantities are certain to be taken by the Hawaiian and other islands of the Pacific. Judging from recent shipments, more will be required on this account than in previous years, especially for the Hawaiian Islands. The speculative market did not show much animation, and fluctuations in prices on Call Board were at a narrow range. The barley standards established by the Produce Exchange for the current cereal year are as follows:

Variety.	Pounds.
No. 1 Chevalier	53
No. 1 Brewing	46
No. 1 Feed (bright)	40
No. 1 Feed (dark)	42

Feed, No. 1 to choice	82½@ —
Feed, fair to good	75 @ 80
Brewing, No. 1 to choice, new	87½@ 92½
Chevalier, No. 1 to choice	1 10 @1 15
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 80@82¾c.

December, 1899, delivery, 84⅜@82c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 82c; seller 1899, new, —c.

Oats.

The quotable range of values and the general tone did not vary much from that of preceding week. Demand was not very brisk, and was principally for a low-priced oat. The tendency was, in consequence, to a narrower range of prices than previously current. Choice to select white were not held at quite such stiff figures as had been ruling, while colored oats and the more common sorts of white ruled decidedly steady at prevailing rates. Most of the trading in colored oats was in Red, these being given the preference over Black for feeding. The latter variety is required principally for seed for hay, and has to be free of foul matter to be sought after for this purpose. Surprise remain scarce, and only nominal values for the same can be stated at present.

White Oats, fancy feed	1 22½@——
White, good to choice	1 12½@1 17½
White, poor to fair	1 05 @1 10
Gray, common to choice	1 10 @1 15
Milling	1 10 @1 15
Surprise, good to choice	1 25 @1 30
Black Russian	90 @1 05
Red	95 @1 12½

Corn.

Most of last crop has been marketed, and new has not yet begun to come forward, although arrivals of Eastern new, both Yellow and White, are expected at an early day. Eastern dealers have been sending out feelers for bids and solicitations for orders. New crop California will not likely be on the market in quotable quantity for a month yet. Stocks of old corn are mainly Eastern Large Yellow and White, and are not heavy of these descriptions. Holders are asking much the same rates as have been current for a fortnight or more.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 40 @ —
Eastern Mixed	1 00 @1 02½

Rye.

No decided changes to record in quotable values. Market is exceedingly quiet, offerings and demand being both light.

Good to choice, new	95 @1 00

Buckwheat.

A small quantity of new crop buckwheat has arrived, but hardly enough to test values. Increased stocks are anticipated at an early day.

Good to choice	2 00 @2 10
Silverskin	— @ —

Beans.

Trading in the bean market has been of much the same slow order as for some weeks preceding. Buyers are not numerous, and where they do put in an appearance, it is the exception when they evince disposition to operate in noteworthy fashion at full current rates. Present supplies are principally of old crop, are not of heavy proportions, and are mainly in few and strong hands, consequently it is rather rare when any pronounced or undue selling pressure is being exerted. New crop beans are not likely to put in an appearance in very large quantity for several weeks to come. In fact, it is doubtful if the market will be seriously burdened with new crop stock at any time during the season now opening, although there may be enough to temporarily depress values for several varieties, notably Pinks, Bayos, Lady Washingtons and Black-eyes. The latter are now selling at a sharp decline from figures recently current, and prices for same may drop to still lower levels before stability is reached.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 65 @1 75
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 15 @2 25
Bayos, good to choice	1 70 @1 80
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	3 00 @3 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Recent advices by mail from New York furnish the following review of the bean market in that center, prices quoted being per 60-lb. bushel:

Exporters have taken only a few Marrow beans this week, but the home jobbing trade has improved somewhat, and, with more reserved offerings and firmer country advices, prices have advanced slightly. Shippers have filled most of their orders for average choice quality at $1.55, but home buyers have paid $1.57½ generally for fancy lots, a few sales making at $1.60. It seems quite certain that the new crop of Marrow will be of very moderate proportions, and the size of the beans is likely to be small, owing to the dry weather. The jobbing demand for Medium and Pea has not shown much force, but a good deal of stock has been wanted by the Government, one transport for Porto Rico taking 850,000 pounds, and the holdings have been so largely reduced as to make a stronger feeling at the close; it would now be difficult to buy the finest goods below $1.40. We hear of numerous sales of new crop Michigan to arrive at $1.25@1.30, and a little more is now generally asked. Export orders for Red Kidney were light and receivers were glad to fill them at $1.67½@1.70. White Kidney, Yellow Eye and Turtle Soup have been quite dull. Lima slow and most holders report no sales above $2.77½. Green and Scotch peas are fairly steady because of the light supply on the spot. Some new are on the way here.

Dried Peas.

Several lots of new have come upon the market from the Northern and Southern coast, mostly Green or Blue, and including a wide difference in quality. Values are in consequence at a greater range than is ordinarily experienced. The inquiry for the Niles variety is light and market for the same lacks firmness.

Green Peas, California	1 75 @2 00
Niles Peas	1 25 @1 50

Wool.

The market in this center is in the same waiting attitude as previously reported, so far as greased wools are concerned. The quantity of wool in the grease which is now in store in the local warehouses is not heavy, and does not include much of an assortment for buyers to select from, being mostly heavy and defective Southern. This accounts for the light trade in progress lately, and no improved movement need be looked for until stocks are more liberal and show a goodly proportion of desirable fleeces, such as mountain free and choice Northern. Some business is doing in scoured Spring on Eastern account, and at generally steady rates. The market throughout shows a very good tone. Recent advices from Europe report a firm market, with prices relatively higher there than are now nominally current here.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	—@—
Middle Counties	8 @10
Northern, free	9½@11
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

New crop hops are arriving in moderate quantity, and most of those which have come to hand thus far are being delivered on contracts. Some which are unplaced are not being offered for the time being, holders considering it an inopportune time to endeavor to make transfers. The market is certainly not firm, and unless some foreign demand is experienced within the next few weeks, it is doubtful about values being sustained at the figures now nominally current. Dealers are not hunting hops at the quotations named. Many of them are loaded up with contracted stock.

Good to choice, 1899 crop	10 @12½

The following review of the hop market comes through by recent mail from a New York authority:

A review of the hop situation this week reveals no changes of moment. Business on the local market is nearly at a standstill. Most of the old stock is owned by dealers, and it is held merely awaiting opportunity to sell. If the goods were forced on the market it might unnecessarily break prices, and yet the feeling is so tame that concessions would be made if buyers would talk on any decent-size lot. A few bales of the new crop have arrived and went direct to brewers, the price being determined largely by the cost in the interior. There is not much disposition to take hold of the new hops until something more definite is known of the yield and the quality of the stock. In this State better weather this week has prevented any further damage to the crop. Picking is going forward rapidly and will be nearly completed by the middle of next week. Everyone concedes a shortage as compared with last year, but at this writing the estimates vary a great deal and are not very reliable. Picking in California is nearly completed, and harvesting is under way in Oregon and Washington. Weather reports from Oregon have been unfavorable and it is difficult to say much about the quantity or quality of the incoming crop.

Hay and Straw.

There is still more hay coming forward than the demand will readily absorb, even at the low figures prevailing. There is a little strictly choice Wheat and Tame Oat hay selling to fair advantage, although extreme quotations represent full value for these descriptions. The more ordinary grades meet with a slow market, buyers having the decided advantage. Wire-bound hay will not command within 50c per ton of the price for same hay, rope-bound, the latter being preferred. The objection to wire-bound comes mainly from hostlers, who claim that the wire is dangerous to horses. Others contend that this is simply an excuse of hostlers, who are able to obtain some whisky or beer money from junkmen for the rope, but find no market for the wire. Whatever the prime cause, wire-bound hay is in poor favor.

Wheat	7 00@ 9 00
Wheat and Oat	7 00@ 8 50
Oat	6 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	—@—
Compressed	8 00@10 00
Straw, ₱ bale	25@ 40

Millstuffs.

Stocks of bran and middlings continue of moderate volume, with the demand fair and prices well sustained. Market for rolled barley presented an easy tone, without being materially lower. Milled corn was in reduced supply, and was held about as last quoted.

Bran, ₱ ton	15 50@16 50
Middlings	18 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

Mustard seed has been arriving quite freely the past week from the southern coast section. There is a good shipping demand for Yellow, and market for same is firm. Monday's Panama steamer took 73,336 pounds of mustard seed for New York. Trieste is not salable to advantage, inquiry for this variety being light. In other seeds there is little doing, as much owing to lack of noteworthy offerings as to any other cause.

	Per ctl.
Mustard, Trieste	3 15@3 25
Mustard, Yellow	3 75@4 00
Flax	—@—

	Per lb.
Canary	3½@4
Rape	3 @4
Hemp	4¼@4½
Alfalfa, Utah	—@—

Bags and Bagging.

As is to be expected, there is no business of consequence being transacted in grain bags, and there seldom is at this late date. While there were enough for requirements, not many will be carried over into the new year. Wool sacks are meeting with some inquiry, as are also fruit bags and bean sacks, all going at quotably unchanged rates.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¼
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@27
Gunnies	—@11½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	5½@ 6¼

Hides, Pelts and Tallow.

Hides and pelts are in light receipt, causing prices for them to be well sustained at the current range. Tallow continues in good demand, with market firm at the last quoted advance.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	10@10½	9@ 9½
Medium Steers, 48 to 56 lbs	9@ 9½	8@ 8½
Light Steers, under 48 lbs	—@ 9	—@ 8
Heavy Cow Hides, over 50 lbs	9@ 9½	8@ 8½
Light Cow Hides, under 50 lbs	—@ 9	—@ 8
Wet Salted Kip	—@ 9	—@ 8
Wet Salted Veal	—@ 9	—@ 8
Wet Salted Calf	—@10	—@ 9
Dry Hides	—@16	—@13
Dry Kip and Veal, 11 to 16 lbs	—@15	—@12
Dry Calf, under 4 lbs	—@17	—@13
Salted Horse Hides, large	2 25	@2 50
Salted Horse Hides, medium	1 75	@2 00
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	1 75	@2 00
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	25	@ 50
Pelts, long wool, per skin	90	@1 25
Pelts, medium, per skin	60	@ 75
Pelts, short wool, per skin	30	@ 50
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4½	@ 4¾
Tallow, No. 2	3¾	@ 4
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

The British bark Invercoe, sailing this past week for Liverpool, carried 100 cases extracted honey. Shipments by sea for the season to date foot up 1650 cases, being 350 cases more than for the corresponding period last season. Stocks are light and market is firm at the quotations.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

Not much offering, nor is there likely to be at any time this season. Values are being well sustained at the prices quoted.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

While the market for beef is not active, nor particularly firm in tone, choice is not obtainable at materially lower rates than have been current for some weeks past. Market for mutton ruled fairly steady, with no active inquiry, but about enough to absorb present offerings. Hog market is weak from same cause last stated: too many arriving from points outside the State.

Beef, 1st quality, dressed, net ₱ lb	7¾@ 8
Beef, 2d quality	7 @ 7½
Beef, 3d quality	6 @ 6½
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5⅝@ 5¾

Hogs, small, fat	5¾	@	5¾
Hogs, large hard	5½	@	5¾
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ₱ lb	8	@	10
Veal, large, ₱ lb	8	@	—
Lamb, spring, ₱ lb	8	@	8½

Poultry.

Market showed no radical improvement from the depressed condition noted in preceding review. Eastern poultry continued in free receipt, and this interfered with the sale of domestic. Much of the home stock was in poor flesh, otherwise it would have sold more readily and at better figures. Hens which were large and in first-class condition brought above quotations. Small broilers were in fair request at the figures below noted. Large broilers, fryers and young roosters met with a very weak market. Turkeys, ducks and geese in fine condition were not plentiful and were in fair request.

Turkeys, young, ₱ lb	17	@	18
Turkeys, live hens, ₱ lb	15	@	16
Turkeys, live gobblers	15	@	16
Hens, Cal., ₱ doz	3 50	@	5 00
Roosters, old	4 00	@	4 50
Roosters, young, (full-grown)	4 00	@	5 00
Fryers	3 50	@	4 00
Broilers, large	3 00	@	3 50
Broilers, small	3 00	@	3 50
Ducks, ₱ doz	4 00	@	6 00
Geese, ₱ pair	1 50	@	1 75
Goslings, ₱ pair	1 75	@	2 00
Pigeons, Old, ₱ doz	1 25	@	1 50
Pigeons, Young	1 75	@	2 00

Butter.

Prices for fresb butter did not fluctuate materially tbe past week, but for other than a few favorite brands the market lacked firmness. Much of the trade is now on packed butter, and ordinary grades of fresb are in consequence very difficult to move at satisfactory rates. Packed descriptions are offering in tbe main at easy figures.

Creamery extras, ₱ lb	26	@	—
Creamery firsts	25	@	—
Creamery seconds	24	@	—
Dairy select	24	@	—
Dairy seconds	20	@	22½
Dairy, soft and weedy	—	@	—
Mixed store	14	@	16
Creamery in tubs	18	@	20
Pickled Roll	18	@	20
Firkin, Cal., choice to select	18	@	20
Firkin, common to fair	15	@	16

Cheese.

Market is fairiy stocked with domestic product, and there are moderate supplies of Eastern. Demand is less active tban a few weeks ago, and values for California cheese are not being quite so well sustained as earlier in the month. A few select brands going to special custom command slightly higher figures than are quotable.

California fancy flat, new	11	@	—
California, good tc choice	10	@	10½
California, fair to good	9	@	9½
California Cheddar	—	@	—
California, "Young Americas"	10	@	12

Eggs.

Stocks and offerings of fresh domestic continued of very moderate volume, but with custom running largeiy on Eastern and local cold storage, not many selected fresh were required to accommodate tbe demand at figures asked for the latter. In a small way a few extra select brought a little more than quotations. Cold storage eggs were as favorable to buyers as previously noted.

California, select, large white and fresh	29	@	—
California, select, irregular color & size	24	@	28
California, good to choice store	20	@	24
Eastern, as to section and grading	17	@	23
Eastern, cold storage	—	@	—

Vegetables.

Changes in values for vegetables quoted herewitb were not numerous or marked. Onions were in improved demand and prices were slightly firmer. Corn was in decreased receipt and brougbt an advance on last quoted rates. Tomatoes were in excessive stock and prices ruled very low.

Asparagus, fancy, ₱ box	—	@	—
Asparagus, No. 1, ₱ box	—	@	—
Asparagus, common to fair, ₱ box	—	@	—
Beans, Wax, ₱ lb	1½	@	2½
Beans, String, ₱ lb	1½	@	2½
Beans, Lima, ₱ lb	1½	@	2½
Cabbage, choice garden, ₱ 100	50	@	60
Cauliflower, ₱ doz	50	@	—
Corn, Alameda, ₱ crate	75	@	1 25
Corn, Green, ₱ sack	50	@	1 00
Corn, Berkeley, ₱ crate	50	@	75
Cucumbers, Alameda, ₱ large box	25	@	50
Cucumbers, ₱ small box	—	@	—
Egg Plant, ₱ box	30	@	60
Garlic, new, ₱ lb	2	@	3
Mushrooms, Buttons, ₱ lb	—	@	—
Mushrooms, wild, ₱ box	—	@	—
Okra, Green, ₱ box	30	@	50
Onions, Yellow, good to choice, cental	80	@	90
Onions, New Red, ₱ cental	—	@	—
Peas, Sweet, Garden, ₱ lb	3	@	4
Peas, common, ₱ lb	1½	@	2½
Peppers, Green Chile, ₱ box	25	@	40
Peppers, Bell, ₱ large box	35	@	50
Pickles, small, ₱ cental	1 50	@	1 75
Pickles, No. 2, ₱ cental	75	@	1 00
Rhubarb, ₱ box	—	@	—
Squash, Bay, ₱ large box	—	@	—
Squash, Marrowfat, ₱ ton	8 00	@	10 00
Squash, Summer, ₱ box	25	@	40
Tomatoes, River, ₱ box	20	@	35
Tomatoes, Bay, ₱ box	25	@	50

Potatoes.

With demand not particularly brisk and arrivals of potatoes moderately large, tbe market has been inclining in favor of buyers most of tbe current week. Oregon is beginning to forward, but so far only small sample lots have been received, and tbere has been notbing upon wbich to base quotations for Oregon stock. Prices for California Burbanks, however, will cover vaiues for Oregon. Sweets were more plentiful and lower.

Burbanks, River, ₱ cental	40	@	70
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	—	@	—
River Reds	90	@	1 00
Early Rose	60	@	75
Garnet Chile	75	@	90
Burbanks, Salinas, ₱ cental	1 00	@	1 10
Sweet River, ₱ cental	1 00	@	1 50
Sweet Merced	1 25	@	1 75

The Fruit Market.

Fresh Fruits.

Supplies of fresh fruits, especially of the deciduous sorts, were of rather light volume, as compared with some weeks preceding. Choice stock in every way desirable for shipment met, as a rule, with prompt custom at generally good figures, some sales being made at an advance on best figures quoted. Choice Apples were not in excessive supply, nor are tbey likely to be at any time the current season, as the demand for tbem later on will be still more active than at present. Common Apples remain plentiful and as cheap as ever. Pears are not arriving in beavy quantity, and especially are choice Bartletts in quite limited stock, the season for this variety being nearly ended. Peaches of late varieties were in fair supply, and where in first-class condition brought about as good figures as preceding week; but over-ripe fruit, of whicb there was considerable, met with a weak, dragging and generally unsatisfactory market, as might well have been anticipated under the conditions. Neitber Plums nor Prunes made a heavy showing, and steady prices were in the main realized, although the demand for these descriptions was not of a very active character. Wben qualities were faulty, it was necessary to accept low figures and then sales were not readily effected. Figs and Pomegranates arrived sparingly, but with demand for them quite limited, values did not toucb high levels. Table Grapes of most kinds were in ample supply for current requirements, and market presented an easy tone, except for Seedless and Isabellas, these receiving the most attention as compared with the quantity offering. Wine Grapes were in light stock and met with a firm market. Melons were in improved demand, but not quotably higher. Berries in season brought generally steady figures where the quality showed merchantable condition.

Apricots, good to choice Royal, ₱ ton	—	@	—
Apricots, Royal, ₱ box	—	@	—
Apricots, Pringle, ₱ box	—	@	—
Apples, fancy, ₱ 50-lb. box	—	@	—
Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ₱ 50-lb. box	75	@	90
Apples, Green, common to fair, ₱ 50-lb. box	25	@	50
Blackberries, ₱ chest	3 00	@	4 50
Cantaloupes, ₱ crate	40	@	75
Cantaloupes, Nutmeg, ₱ crate	25	@	50
Cherries, Black, ₱ box	—	@	—
Cherries, Red, ₱ box	—	@	—
Cherries, Royal Anne, ₱ box	—	@	—
Cherries, White, ₱ box	—	@	—
Crabapples, ₱ small box	—	@	—
Currants, ₱ chest	—	@	—
Figs, Black, 2-tier box	50	@	75
Figs, White, ₱ box	30	@	60
Gooseberries, ₱ lb	—	@	—
Gooseberries, ₱ 10-lb box	—	@	—
Grapes, Black, ₱ crate	30	@	60
Grapes, Fontainebleau, ₱ crate	—	@	—
Grapes, Muscat, ₱ crate	40	@	60
Grapes, Tokay, ₱ box, 30@50c; ₱ crate	40	@	60
Grapes, Seedless, ₱ box, 70@80; ₱ crate	75	@	90
Grapes, Isabella, @ crate	50	@	75
Grapes, Zinfandel, ₱ ton	18 00	@	21 00
Logan Berries, ₱ chest	—	@	—
Nectarines, Red, ₱ box	—	@	—
Nectarines, White, ₱ box	—	@	—
Peaches, fancy wrapped, ₱ box	60	@	75
Peaches, ₱ box	25	@	60
Peaches, ₱ carrier	40	@	65
Pears, Bartlett, No. 1 to choice, ₱ ton	—	@	—
Peaches, Clingstone, ₱ ton	20 00	@	30 00
Peaches, Freestone, ₱ ton	20 00	@	30 00
Pears, Bartlett, ₱ 40-lb. box, wrapped	75	@	1 50
Pears, common, ₱ basket	—	@	—
Pears, ordinary, ₱ box	30	@	60
Plums, large, ₱ ton	—	@	—
Plums, large, ₱ crate	40	@	65
Plums, ₱ box	30	@	50
Plums, Cherry, ₱ drawer	—	@	—
Pomegranates, ₱ box	50	@	1 00
Quinces, ₱ box	30	@	60
Raspberries, ₱ crate	—	@	—
Raspberries, ₱ chest	3 00	@	5 00
Strawberries, Longworth, ₱ chest	7 00	@	8 00
Strawberries, Large, ₱ chest	2 00	@	4 00
Watermelons, ₱ 100	5 00	@	20 00
Whortleberries, ₱ lb	4	@	8

Dried Fruits.

Wbile the market for cured and evaporated fruits is not displaying any great activity, nor is it on a whole remarkable for strength, there has been a very fair amount of husiness, as evidenced through shipments by sea and land, and prices are being better sustained tban the bear prophets would have admitted as possible a month ago. The most encouragiug feature tbe current week is the improved condition of tbe peach market, despite the kicks and cuffs launched at this fruit lately by the buying interest. The improvement is tbe more remarkable, coming as it does when the conditions are not what could be termed favorable for tbe development of strengtb. The warm weather East and South was not encouraging for dealers in those sections to take bold freely. At tbe same time tbe demand for peaches at current figures was in excess of offerings, sbowing that buyers considered prices low, a view likewise entertained by most producers, and some who are sufficiently forehanded to be able to do so, are refusing to unload on present market. If is a very ordinary peacb tbat is to-day obtainable in carload lots at 4½c, and strictly fancy unpeeled are not being crowded upon buyers at 7½c. Apple market is without quotable change, and for common qualities the tone is rather easy, altbougb some of superior quality are commanding above quotations, 8 and 9c being realized in a small way, the latter figure for 25-lb. boxes. Apricots and pears continue against buyers, especially choice qualities, with few offering. Figs are ruling steady, witb fair inquiry. Plums are not being very eagerly sought after, but buyers find it necessary to pay full current rates. In prunes tbere is not much new business, deliveries being mainly on early contracts. Prices remain quotably as before, with the weakness of the market confined to the middle sizes. Large prunes are likely to meet with a good foreign as well as domestic demand. As the proportion of small prunes this season is light, there is no likelihood of there being any lack of custom for them at current low rates.



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EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10	@	12
Apricots, Royal, fancy	12	@	13
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7	@	7½
Apples, 50-lb. boxes, rings, pressed, good to choice	6½	@	7
Figs, White, fancy pressed	8	@	8½
Peaches, unpeeled, good to choice	4½	@	5½
Peaches, unpeeled, fancy	6½	@	7½
Peaches, peeled, in boxes	—	@	—
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½	@	8½
Plums, pitted	5	@	6
Prunes, in sacks, 40—50's	4½	@	4¾
50—60's	3¾	@	4
60—70's	3¼	@	3½
70—80's	2¾	@	3
80—90's	2¼	@	2½
90—100's	1¾	@	2
110—130's	1¼	@	1¾
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	3	@	—
4 sizes San Joaquin and Northern	2½	@	2¾
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4	@	5
Apples, quartered	4	@	5
Figs, Black	2	@	3
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Advices by recent mail from New York have the following to say concerning the dried fruit situation in the East:

The situation on apples has shown no change this week. There is a steady jobbing demand for evaporated and the few lots arriving are working out at about present prices. The feeling is weak, however, owing to the free offers for future delivery at prices much under figures now ruling. Strictly prime wood-dried have sold for later delivery at 6¾@7c, and even lower in instances. Few sun-dried apples arriving and quotations are little more than nominal; sliced range from 3½@5c, but fancy have small sales at 5½@6c, and some southern sun-dried quarters have been moved at 4@4½c. Chops nominally worth 1¾@2c, and cores and skins 1¼@1¾c, though not much doing in either. Raspberries barely steady. Blackberries quite plentiful and easy. Huckleberries scarce and very firm, and also fine cherries, though some poor cherries have sold at ½@1c under quotations. California fruit quite plentiful and meeting only a moderate demand.

Apricots, Cal. Moorpark, 1899, per lb	14	@	16
Apricots, Cal. Royal, 1899, per lb	12	@	13
Peaches, Cal., 1899, unpeeled, in boxs. lb.	7¾	@	9
Peaches, Cal., 1899, unpeeled, in bags, lb.	8	@	8½
Prunes, Cal., 1898, per lb	3	@	8

Raisins.

The California Raisin Growers' Association has named prices for new crop Thompson Seedless and Sultanas, which are given below. As the crop is late, prices for Muscatels have not yet been arranged, but will likely be announced in a week or two. Owing to light yield, the raisin market presents a firm tone.

F. O. B. FRESNO DELIVERY.

Imperial Clusters, per box	—	@	—
Dehesa Clusters, per box	—	@	—
Fancy Clusters, per box	—	@	—
London layers, 3-crown, 20-lb box	—	@	1 20
London layers, 2-crown, 20-lb box	—	@	1 10
Valencia layers, ₱ 20-lb box	80	@	1 00
(Usual advance for fractions.)			
Loose Muscatel, 4-crown, ₱ lb	5½	@	5¾
Loose Muscatel, 3-crown	4¼	@	4¾
Loose Muscatel, 2-crown	—	@	—
Loose Muscatel, ungraded	—	@	—
(Above prices for loose raisins are for 50-lb boxes.)			
Dried Grapes	2½	@	2¾

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Citrus Fruits.

Oranges are still in evidence, but only in small quantity, mainly late Valencias, and are held at $3.00@$5.00 per box, as to quality. Lemon market is firm and higber, with offerings on the decrease and recent demand showing decided improvement. Lime market is easier, owing to fresh arrivals from Mexico.

Lemons—Cal., select, ₱ box	3 50	@	4 00
Cal., good to choice	2 00	@	3 00
Cal., common to good	1 50	@	2 00
Limes—Mexican, ₱ box	5 00	@	6 00
Cal., small box	—	@	—

Nuts.

Almond market is strong at the quotations, most of tbe crop having been already sold for shipment. The Walnut market is expected to open at 8@8½c for soft shell and about balf a cent less for standards. Prospects are tbere will be a good demand. Peanuts remain scarce, and market is very firm.

California Almonds, paper shell, ₱ lb	11	@	13
California Almonds, soft shell	8	@	10
California Almonds, hard shell	7	@	8
Wainuts White, Cal., standard	9	@	10
Chestnuts, Cal. Italian	—	@	—
Peanuts, Cal., fair to prime	5½	@	6½
Peanuts, Eastern hand-picked	6½	@	7½
Pine Nuts	5	@	8

Wine.

There is no change to record in the general tone of the market, quotable values for claret remaining as previously noted, 15@20c per gallon delivered in San Francisco, as to quantity, quality, etc. The outward movement is of fair average proportions. Monday's Panama steamer carried 87,320 gallons and ten cases, tbe bulk of it being for New York. The wine shipments by sea in August were 315,910 gallons and 647 cases, valued at $97,725. For corresponding month in 1898 the exports by sea were 122,758 gallons and 485 cases, with a total valuation of $46,000.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for tbe season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	106,646	1,231,044	1,043,048
Wheat, ctls	142,929	992,301	734,759
Barley, ctls	90,276	1,792,633	312,620
Oats, ctls	21,145	178,287	114,820
Corn ctls	....	23,660	31,045
Rye, ctls	....	55,797	4,745
Beans, sks	2,874	39,363	53,023
Potatoes, sks	31,062	231,274	222,649
Onions, sks	3,861	55,635	51,923
Hay, tons	4,261	45,372	46,788
Wool, bales	904	16,179	14,649
Hops, bales	107	1,111	1,957

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	79,388	729,019	699,136
Wheat, ctls	54,272	774,567	426,918
Barley, ctls	2,826	1,371,286	60,740
Oats, ctls	793	12,185	5,594
Corn, ctls	107	3,926	4,273
Beans, sks	398	4,510	16,541
Hay, bales	689	22,628	9,391
Wool, lbs	....	75,991	587,901
Hops, lbs	7,449	157,279	373,948
Honey, cases	....	1,390	1,178
Potatoes, pkgs	267	12,959	10,582

California Dried Fruit at New York

NEW YORK, Sept. 20.—California dried fruits: Market quiet and steady. Evaporated apples, common, 7½c; prime wire tray, 7¾@8¼c; choice, 8¾@9c; fancy, 9¼@9½c.

Prunes, 3¼@8½c.

Apricots, Royal, 12½@14c; Moorpark, 15@16c.

Peaches unpeeled, 7¾@9c; peeled, —@—c

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Scenery of British Columbia.

The picturesqueness of the scenery in British Columbia is illustrated in the accompanying engravings. Most of the smaller streams rise in the higher mountain ranges, being supplied by the heavy fall of snow in winter, and during summer by numerous never-failing springs. The streams have cut their sinuous ways deep into the rocky strata and these gorges and canyons constitute a most attractive feature of that province. Bull river is at all times a good-sized stream, swift and broad until it enters the canyon, where it is confined to a width of about 30 feet by perpendicular walls of quartzite. Through this gorge the river drops nearly 300 feet in a succession of falls and rapids in the distance of a mile. The stream rushes along, lashed into foam where sharp-angled turns obstruct its passage. Near the bridge it leaps over a precipice 80 feet in height, forming a beautiful cataract which sends up a cloud of mist in which is hung a beautiful rainbow on each clear day. Below the bridge the canyon deepens until its abrupt walls are 200 feet high, though scarcely half that distance apart. Suddenly the canyon widens into a charming valley surrounded with gently sloping hills densely timber clad. The Bull River canyon is considered one of the most beautiful bits of scenic grandeur in British Columbia. Sand creek is also a picturesque stream, cutting its way down through twisted and contorted metamorphic rocks. The illustration shows it to be quite as wild and rugged as the canyon of Bull river. Another type of scenery, wholly different from the deep, narrow gorges above described, is found at the mouth of Dutch creek, where recent erosion has cut deep into the alluvial banks, leaving that strange type of earth sculpture which has required centuries, and changes a smooth, sloping hillside to an abrupt, precipitous bank in which the character of the stratified deposit with its variation of color are exposed.



CUT BANK, MOUTH OF DUTCH CREEK, B. C.



BULL RIVER CANYON, S. E. KOOTENAY, B. C.



SAND CREEK, S. E. KOOTENAY, B. C.

The Farmer Boy.

Too often a boy becomes dissatisfied with the seeming monotony of the farm, and transfers his brain and brawn to the overcrowded city, where he expects to find wealth and fame at his command. He does not stop to ask himself: "Am I better fitted to compete with the rank and file of city people than I am to force gently resisting nature to give me a sustenance? Will I attain a higher standard of success in the city than I will on the farm?" Thus, through lack of thought, many a boy who goes from the farm to the city, may pay for his thoughtlessness in bitter despair, remorse and failure. A boy who is a natural born farmer can no more make a complete success as a merchant, than oats, sown in the fall, can go through the winter and come to a full fruition at the harvest time. The boy who contemplates leaving the farm should study himself thoroughly before he takes a step that may be the mistake of his life. He should endeavor to ascertain the particular calling for which nature has fitted him. Nearly every man is a genius in his own way. Almost every individual has the talent to do some one thing better than the majority of his associates can do it. When once he learns what his particular forte is, and persistently applies himself to it, he need have no fear of making a failure. — Guy E. Humphreys.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPT. 5, 1899.

632,592.—Binder and Ledger—Sol Adler, S. F.
632,615.—Fire Door for Furnaces—O. A. Alexander, S. F.
632,673.—Railway Switch—R. Cady, Los Angeles, Cal.
632,452.—Grader and Ditcher—G. F. Earhart, Lafayette, Or.
632,344.—Fruit Basket—O. C. Fenlason, Hoqulam, Wash.
632,345.—Shipping Box—O. C. Fenlason, Hoqulam, Wash.
632,411.—Window Sash—B. Hausmann, S. F.
632,356.—Cold Storage Apparatus—J. T. Ludlow, S. F.
632,364.—Leather Dressing Machine—C. E. Pellsw, Alameda, Cal.
632,429.—Support for Open Book—A. M. Riddell, S. F.
632,374.—Mop Wringer—S. Samson, Tacoma, Wash.
632,431.—Camera—I. G. Sigler, Los Angeles, Cal.
632,384.—Book Support—M. E. Welch, Portland, Or.
632,389.—Plow—A. V. Wilbur, Stockton, Cal.
31,494.—Design—X. Dodel, S. F.

Note.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong&Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s Scientific Press U. S. and Foreign Patent Agency, the following are worthy of special mention:

Slidable and Swinging Window Sash.—Bernard Hausmann, San Francisco, Cal. No. 632,411. Dated Sept. 5, 1899. This invention relates to a mechanism for sliding window sashes and a means for disengaging such sashes so that they are turnable about hinges to swing inwardly for the purpose of obtaining access to the outside of the sash. It consists of guided, grooved and shaped slides to one of which one edge of the sash is hinged; a hook or hooks upon the opposite edge of the sash, and corresponding loops upon the slide with which the hooks engage when the sash is closed, a means for retaining in place and preventing the slide from moving upwardly when the sash has been disengaged therefrom, which consists of a stop or channel upon the slide and a yoke horizontally sildable, so as to engage with this stop or channel or he disengaged therefrom.

Cold Storage Apparatus.—J. T. Ludlow, San Francisco, Cal. No. 632,356. Dated Sept. 5, 1899. This invention comprises a cold storage room in which meat may be either hung up or packed in bulk, and a convenient method for changing from one system to the other, and to secure a natural and even circulation of cold air around the outside of the bulk of packed meat. The rooms have non-conducting walls with stanchions and cross-bars removably fixed near said walls to form spaces, and other stanchions intermediate between the ends of the rooms, forming an open space larger than those contiguous to the walls, and through which access may be had. Stringers with transverse bars are fixed upon the floors so that the ends and central spaces are connected, and refrigerating pipes are disposed along the ceiling and around the upper part of the packing spaces. Below the lines of pipes are parallel bars having hanging hooks fixed to them, and hanging bars, the upper ends of which are fixed to the deck beams and are so formed as to support the refrigerating pipes and the hook-carrying bars.

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Beware of all so-called Elixirs, none genuine but Tuttles.

Horse Ailments

Work of Experiment Stations.

Attentive readers will remember that at the meeting of the Association of Agricultural Colleges and Experiment Station Workers in San Francisco, the president, Prof. H. P. Armsby, of Pennsylvania, made an address, of which we gave a brief outline. The following extract is of interest:

The real problem of the station is not to put a mass of information, however valuable, into the hands of the farmer, but to strengthen his grasp on principles and his ability to apply them intelligently. In other words, it is an educational problem. The true field of work of the experiment station is the farmer's mind, not his acres. But the direct and obvious educational influence of the station on the farmer is of less importance, as it seems to me, than its indirect services, and it is to these that I especially wish to direct your thoughts.

We are evolving a variety of methods and appliances for agricultural education. Starting with the agricultural college, we are developing secondary agricultural education in our short courses and dairy courses, and the demand promises to outrun the supply. The movement for the introduction of the elements of agricultural science into the rural schools is gathering head, and the normal schools are already beginning to react to the demand for qualified teachers. Within the last fifteen years the system of farmers' institutes has had a most phenomenal growth, and the attendance upon these schools of the farmer must be reckoned by the hundreds of thousands, if not millions. The reading and correspondence courses are making a rapid and apparently healthy growth, and if last, not least, the agricultural press has been almost revolutionized in its character within the last three decades, and has become a powerful instrument of agricultural education. Everywhere there is manifest the demand for more light. The farmers are awake; they are hungry and thirsty for knowledge.

This movement, once started, cannot go backward. I look forward confidently to the time when the agricultural college as we now know it will be but the capstone of a great system; to the time when the country boys and girls throughout their whole education, be it longer or shorter, from the kindergarten through the primary school to the secondary school to the college and the university, shall be trained in the observation of those processes of nature which surround them on every hand, but which now so largely appeal to eyes that see not and ears that hear not. When that time comes, when every rural school is a school of agriculture and its work is supplemented by the farmers' institute, the agricultural press, and the home study course, when instead of counting our students of agriculture by the score or the hundred, we shall count them by the thousand or million, then we shall have risen to some adequate comprehension of the dimensions of this vast problem of agricultural education, and shall have made a long step toward solving the problem of rural discomfort by making farming an intellectual occupation.

But what shall all these people, young and old, be taught, and who shall teach it to them? Where shall we find the foundation from which shall flow the stream of knowledge and inspiration which shall fructify and vivify this vast system and prevent it from becoming simply a teaching machine, and our teachers mere peddlers of knowledge? We shall find it precisely where it is found in all systems of education: in that first-hand knowledge and familiarity with the subject which is gained by independent original investigation. That is, we shall find it in the experiment station. It is here that I see the high ideal and the great work of the experiment station. It is our agricultural university devoted to the advancement of learning; the promoter of investigation; the source, not merely of knowledge, but of inspiration for the whole organism.

Do the Mites Go to the Ground and Back to the Tree?

To the Editor:—Having lived these forty-two years in the retirement that I easily adorn, it is not desirable that I should again appear in print on the yellow mite subject. My investigations were hasty and you may be right when you say: "But we have no idea at all that they volunlarily go to the ground or that they return in considerable numbers."

To be brief, a neighbor told me that the mite left the tree some time during the twenty-four hours, and that sulphur scattered around the base of the tree would be as good as dusting it over the leaves. Accordingly I bought a barrel of the best sublimed and began operations early in the morning.

At six o'clock I could not discover spiders or mites in the web. At eight o'clock under one tree that I took time to examine the little varlets were swarming out of the ground and up the tree in countless numbers.

One clod the size of a man's fist was completely covered with them. The top of the clod was not visible—the mites seemed to be piled there half a dozen deep.

It is my belief that the chilly air of night is too much for their delicate constitution, and that the tree is their home in the day time and the adobe crack at night. Trees standing on heavy land are always the first and worst sufferers, apparently, because the temperature of such land changes but little at night and the cracks afford the necessary protection.

Ruminate on the above, Mr. Editor, and in the near future, if I get time, I will take a spade and push my investigations further. L. J. Harbison.

Vacaville.

[This is becoming interesting. We are ready to believe this nightly recourse to the ground if it can be demonstrated. It would be the most valuable thing in our fruit growing just now to prove it, because it would make the mites the easiest things in the world to kill. Who will prove it, and how?—Ed.]

State of Ohio, City of Toledo, } ss.
Lucas County, }

Frank J. Cheyney makes oath that he is the senior partner of the firm of F. J. Cheyney & Co., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of Catarrh that cannot be cured by the use of Hall's Catarrh Cure.

Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1886.

{Seal.} A. W. GLEASON,
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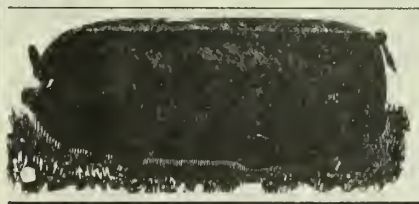
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Breeders' Directory.

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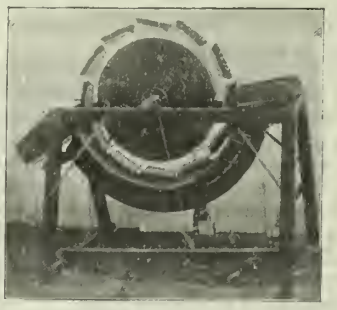


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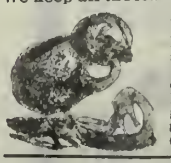
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Patrons of Husbandry.

Why Farmers Should Join the Grange.

Extracts from address by J. D. SILVIA, at Progressive Grange, Healdsburg.

Let us consider this question: "Why farmers should join the Grange," and arm ourselves with intellectual weapons of such a character that we may be able to cause those we desire to become members to be anxious and eager to join our ranks. I wish I were able to properly present the various reasons in answer to this question, but I must content myself with enlarging in my own crude way upon the reasons set forth in the circular issued by the lecture department of the National Grange, copies of which have been distributed among the members. Those of you who have seen the circulars will notice that the first reason advanced is: "Because the Grange is essentially a farmers' organization, it helps to make better farmers and better homes." It stands to reason that the interests of any class of people are more likely to be advanced if that class bands itself together for the mutual advancement of those interests. Many combinations exist among the wealthier classes, probably for good and sufficient reasons, but more likely for usurping the greater part of the value of the products of industry, thereby leaving to the producer a comparatively small portion. If other classes combine for the purpose of cornering the greater part of the wealth produced by the land, it becomes not only reasonable, but imperative, that the agricultural class, which has direct, or, rather, is in a position to have, direct control of the origin of all wealth, should thoroughly organize itself—not for the selfish motive of controlling more than its share, but for the better purpose of securing its rightful portion—granting with perfect good will to the other factors of industry the right to secure theirs.

Of course, it would seem to some that the interests of all mankind are the same, and that therefore the interests of each and all would be better conserved were all to unite in one common brotherhood; but, from the history we have bearing on this subject, I think we will all agree that the only way in which the agricultural and laboring classes can best secure their rights is in remaining by themselves.

Therefore, we can rightly conclude that if the farmer joins any organization whatever, that organization should be purely one for farmers only. The Grange is such an organization. Moreover, it is one of the great objects of the Grange to make better farmers and better farm homes. I think that, outside of a course in an agricultural college, there is no better way of accomplishing this than by bringing together the farmers themselves.

The banding together of people who have interests in common cannot fail to arouse enthusiasm and love for their work. Advancement in civilization has to a great extent been brought about by the comparison of ideas and experience. Civilization is in a certain sense the sum total of the ideas and experiences of every energetic worker in every department of human effort. If the farmers desire the mutual advancement of their interests and the progress of agriculture, there is no better way to accomplish this than by uniting and taking the work in hand with a will. If the farmer desires to help his fellows and wishes to profit by the experience of others, he should join the Grange. And if every member of the Grange is filled with the spirit of helpfulness, the result will be better farmers and better farm homes. For the interests of the farmers, and the interests of the whole country, I would like to see every lecturer's office in every Grange throughout the land occupied by a graduate of a college of agriculture. But since this cannot at present be realized, the reading of papers, study and discussion can be depended upon to accomplish a great deal. The most successful farmer is he who puts brain effort into his work as well as muscular energy. The Grange is the ideal place in which to get his mind aroused. When the mind is aroused and the will is called into action, ways and means will appear and the Grange will then become a powerful factor in the making of better farmers and farm homes.

If the principles upon which the Grange is founded are adhered to and if the plans indicated for the exercise of the intellectual activity of its members are followed, the Grange will eclipse all other orders or societies in social and intellectual benefits, and this leads us to a consideration of the second reason why farmers should join the Grange, viz: Because its educational features tend to broaden the mind of the farmer and lead him to study and investigate questions which relate not only to the farm and farm life, but to affairs of State and nation as well.

The welfare of the country demands that the people think for themselves to a great extent, and any institution or organization that enables the people to broaden their minds and exchange ideas on matters relating to State and nation, so long as those matters are not entirely partisan in character, contributes greatly to the nation's welfare.

This the Grange endeavors to accomplish, and, with the hearty co-operation of its members, it will surely succeed. Every citizen is a sovereign and a guardian of the nation's honor and welfare, and the farmer, the producer of raw materials, standing as he does at the foundation of industry, wealth and prosperity, is the most important sovereign of all, and is thereby in duty bound to consider the vital issues of national life. Whatever advances the farmer's interests will redound to the welfare of the whole country. With the farmer's interests assured, the rest will take care of itself.

But how can the best interests of the farmer be assured if he refrains from associating with his fellow farmers, if he fails to keep track of the condition of the country, the condition of its politics, the condition of its people as a whole, and more especially the condition of the agricultural classes; if he is so absorbed with his own personal interests as to keep within his little domain, trying to solve the problem of how to get richer than his neighbor; if he is so intent in seeking wealth for himself that he cannot spare the time to devote a few short hours to something especially designed to better his condition?

It is the avowed purpose of the Grange to better the condition of the farmer, to bring him in contact with his fellow farmers and thus create greater interest in and greater enthusiasm for his work, to make of the farming class in the social sense one great fraternal family—a family that will take interest in themselves and in each individual member, a family that will rigidly adhere to the principle that in union there is strength, and not only speak, but act accordingly.

Tulare Grange.

TO THE EDITOR:—Tulare Grange held its semi-monthly meeting on Saturday.

An officer of the State Grange was present, who inspected the books, the work, and the proceedings of the grange.

Sister Morris, on behalf of the Committee on Trusts, made a report which was approved and adopted.

A report was made of Worthy Master W. W. Greer of the State Grange, showing the progress of the order in this State during the past year. Six new granges have been organized and a large number of new members enrolled. It is also reported by the Worthy Lecturer of the National Grange that within the past year 30,000 new members have been enrolled in our order.

This being the last meeting of Tulare Grange previous to the meeting of the State Grange at Napa, on the 3d of October, consideration was given to subjects likely to come before the State Grange, and also to subjects Tulare Grange recommends to the State Grange.

The views of the Grange were embodied in the following resolution:

Resolved, Our representatives in the State Grange, to meet in Napa on the 3d of October, are hereby instructed to support resolutions in favor of the preservation of our forests and storage of flood waters by the General Government; in favor of agriculture being taught in the public schools; in favor of amendments to the Constitution of the State exempting from taxation the property of the Leland Stanford Jr. University and the Lick Mechanic School of Arts; and against the constitutional amendment exempting bonds from taxation.

There was a good attendance. The proceedings were marked by an intelligent understanding of the subjects considered — by a desire, on the part of the members, to be right and just in what they do.

Several members expressed their intention to attend the State Grange.

J. T.

For the State Grange.

At a meeting of the Napa Board of Trade the public reception to be tendered the State Grange was discussed at length, states the *Register*, and the following committees were appointed to take the matter in charge:

Executive Committee—D. S. Kyser, W. G. Thompson and Leslie E. Johnston.

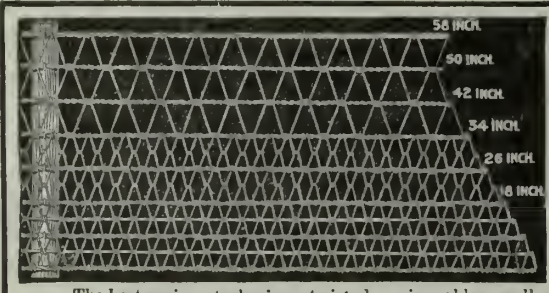
Committee on Exercises and Refreshments—Capt. B. W. Parsons, D. L. Beard, Edw. Manasse, Jos. Levinson and John Kelly.

Committee on Decorations—Geo. E. Goodman, Jr., Hensley Davis, Geo. H. Francis, Mesdames Dr. Taylor, Dr. Porter, Dillon, Lyttaker and the Misses Kelly, Bush, Bernice Thompson, Winifred Dollarhide, Parsons and Haun.

Mayor Fuller will appoint a Reception Committee later.

The following programme has been arranged for Tuesday evening, Oct. 3rd, at the Pavilion in East Napa Park: Overture, Napa Band; vocal quartette, Apollo Club; Address of Welcome, on behalf of Napa City, Mayor Fuller; cornet solo, Mr. T. Thompson; Address of Welcome, on behalf of Napa County, District Attorney T. A. Bell; violin solo, Raymond Benjamin; Address of Welcome, on behalf of Napa Grange, Lecturer J. S. Taylor; refreshments and selections by the Band.

Citizens of Napa and members of Napa Grange will furnish conveyances to show the guests the sights of Napa and vicinity, such as the Insane Asylum, Veteran's Home, Napa Soda Springs, etc.



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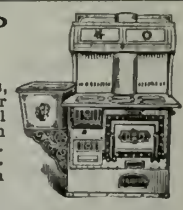
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U. S. A.

Experiments in Silk Culture at Fresno.

A new industry now well advanced in an experimental stage is likely to develop into practical and profitable form, and silk culture be thereby added to the many resources of Fresno county.

Down on H street, in Fresno, Mrs. Mary Der Tavitian is guardian over thousands of greenish-white, gray and ringed worms, which are consuming mulberry leaves by the hundredweight as though not only life but pleasure depended upon it.

These strange, sluggish, creeping, sightless things appear to have but one object, namely, to eat all they can with a view of forming the substance with which to spin the beautiful web which, wound in countless layers, forms the cocoons which are coveted by the factories of the world for weaving the magnificent fabrics upon which women dote.

These worms are now at their busiest stage. They are engorged with the viscid substance from which the web is drawn, and are rapidly forming their cocoons. Each worm, with its peculiar markings, is about 3 inches in length and somewhat larger in girth than a lead pencil. As soon as it is "filled" it stops eating and hunts for a brushy growth upon which to spin its cocoon. Not being able to see, it is extremely sensitive to the touch, and it wanders about over the mulberry leaves and twigs until it "feels" a branch suitable for it to spin its web upon. For this purpose Mrs. Tavitian provides pine tassels, which form an ideal place for the cocoons.

Each worm spins from 10,000 to 12,000 feet of web in making its cocoon, and these two miles or more of delicate strand are reeled off from the cocoons and become the silk of commerce.

L. Saklemian, an Armenian, is also experimenting along the lines of silk culture with a view to making it a permanent business and industry. He has a very large and well-arranged silk plant, and the worms he has at work are making cocoons at a lively rate. He said that there is no doubt about the climate being favorable to the growth of the silkworm and the development of web. The only question to be demonstrated is whether it would prove a profitable investment to set out plantations of mulberry trees on fruit lands valued as high as those around Fresno. To demonstrate this feauture Mr. Saklemian is keeping an accurate record of the amount of leaves his worms consume and the number of cocoons they spin, and after this is ascertained, with the cost of labor—which is slight—in attending the worms, it will be easy to compute the profit or the reverse of making silk in Fresno county.—Fresno Democrat.

Some State Fair Awards.

The following premiums were awarded the Lynwood herd of swine at the State Fair:

Boar, 2 yrs old, Royal King, 1st premium; Berkshire. Boar, 6 mos and under 1 year, Pacific Union, 1st premium; Poland-China.

Sow, 2 yrs and over, Gold Drop, 1st premium; Berkshire. Sow, 2 yrs and over, Lucerne, 2nd premium; Poland-China. Sow, 1 yr and under 2 yrs, Golden Bell II, 2nd premium; Berkshire. Sow, 1 yr and under 2 yrs, Perfect Queen, 2nd premium; Poland-China. Sow, 1 yr and under 2 yrs, Lady Metcalf V, 1st premium; Berkshire. Sow, 6 mos and under 1 yr, Silver Light XXV, 1st premium; Berkshire.

Pair of pigs, Golden Bell II and Biltmore Boar, 1st premium; Berkshire. Pair of pigs, pigs out of Golden Bell II by Starlight, 2nd premium; Berkshire.

Sow and 6 pigs, Belle Winn and pigs by Missouri's Best U. S., 1st premium; Poland-China.

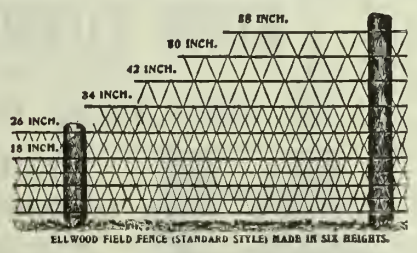
Sweepstakes.—Boar, any age, Royal King, 1st premium; Berkshire. Sow, any age, Gold Drop, 1st premium; Berkshire. Pen of 6 pigs, out of Golden Bell II by Starlight, 1st premium; Berkshires. Herd, (consisting of boar and 2 sows, and 6 pigs, the get of the boar), Regal King, Golden Bell II, Lady Metcalf V, and pigs out of Gold Flower by Regal King, 1st premium; Berkshires.

All told, seven 1st premiums, four 2nd premiums and four sweepstakes 1st premiums.

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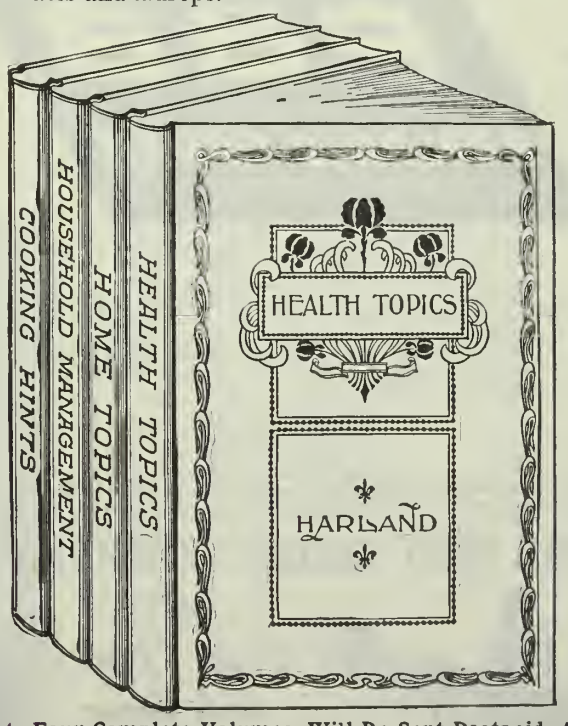
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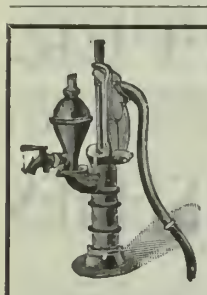
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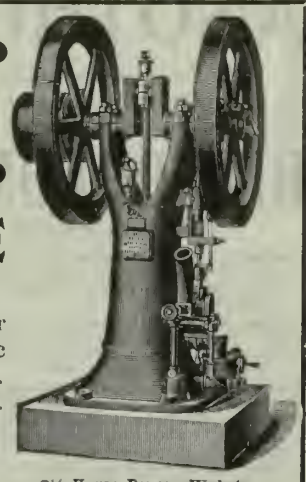
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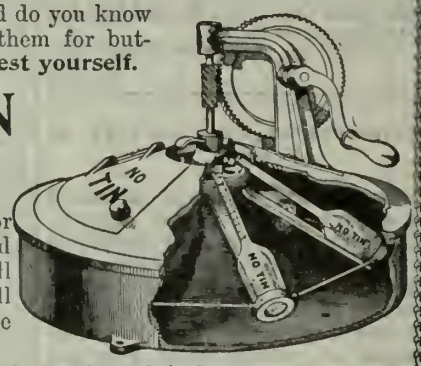
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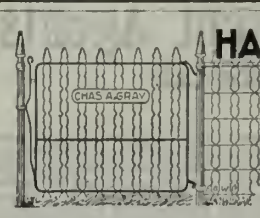
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Vol. LVIII. No. 14. SAN FRANCISCO, SATURDAY, SEPTEMBER 30, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

At the State Fair.

We commented last week upon the general success of the State Fair and the credit reflected upon the management thereby. In this week's issue we have, on other pages, a number of descriptive sketches by our representative at the Fair which will help the distant reader to picture the scenes in his own mind and glean interesting items of information. Upon this page we give an engraving of one of the leading composite exhibits of which description is given elsewhere. The engraving was made from a photograph taken at night. Formerly it was impossible to take photographs successfully in this way, it being thought that nothing less than powerful sunlight was adequate to mirror a subject within the artist's camera. Latterly, by the brilliant flashlight and more sensitive plates, snap shots at night have been made. Now by a combination of superlatively sensitive plates and powerful lenses, where there is ample light from electric illumination, a picture like this can be successfully brought out. Mr. Turril's work, of course, suffers some diminution through the process of reproduction in a half-tone engraving, but the general result is notable and interesting. This undertaking on the part of Sacramento Grange is very creditable to the Order and to the individual members who must have labored long and diligently to collect so fine and varied a display. Such things betoken life in the organization and zeal in the membership and we are glad to make this public acknowledgement of it.

We are receiving appeals for advice as to what pruning should be accorded to the very freaky deciduous fruit trees in parts of the State which have been very dry this year. The facts seem to be that trees are manifesting all kinds of behavior, such as starting leaf growth and bloom, when they ought to be preparing for the dormant period; growing tufts of leaves irregularly and dropping leaves prematurely, and all that. All such things are clearly due to the abnormal moisture conditions of the last two years in the regions where the phenomena occur. With insufficient moisture for a season's growth they started and stopped in all sorts of ways, and are now stopping or starting as a sequence to their earlier hardship. It is likely that the condition cannot be readily cured. We expect it will take more than one good season to bring the trees into good regular growth and bearing. It is fortunate that rains are late or there might be even more trouble than is now seen. If we do not get the ground soaked until heat decreases, the trees will be more apt to cease their present pranks and assume dormancy at the right time. We cannot see any service which can be served by pruning now. It might minister to greater unseasonable growth. We would let the trees alone for the present, and give them an unusually thorough pruning next winter. There have been marked root injuries. To enable the tree to make better top growth next summer, reduce the top considerably next winter.

Good Results from Drainage.

We have had much of the grand results secured by irrigation when the soil lacks moisture and in the present popularity of irrigation we are apt to overlook the fact that some of our richest land needs a directly opposite treatment. This is emphasized by the engraving on this page from a photograph kindly sent us by H. C. Tuchsen, superintendent of the agricultural property of J. A. Hooper, near Woodside, San Mateo county. The White Flint corn shown in the picture stands from 8 to 10 feet high, two or three ears to the stalk and three or four stalks in the hills which are 3 feet apart each way. Besides the corn the land carries a fine crop of pumpkins.

Mr. Tuchsen writes us that he expected good results from his treatment of this land, but realized more than he expected. It was his first experience with drainage on a large scale in California. Formerly the land would lie under water all winter and the greater part of the summer also. This year, however, although there were 14 inches of rain during the last two weeks of March, the land was in good shape for the plow ten days later. The drainage was done with tile, all laid 3 feet deep. The main ditch was of 4-inch tile, laid along the lowest places in the field. Branch lines of 2-inch tile were laid 75 feet apart to connect with the main ditch. The total cost of the work, including tile, was $22 per acre, and Mr. Tuchsen pointedly remarks that, if it pays to irrigate, it also pays to drain.

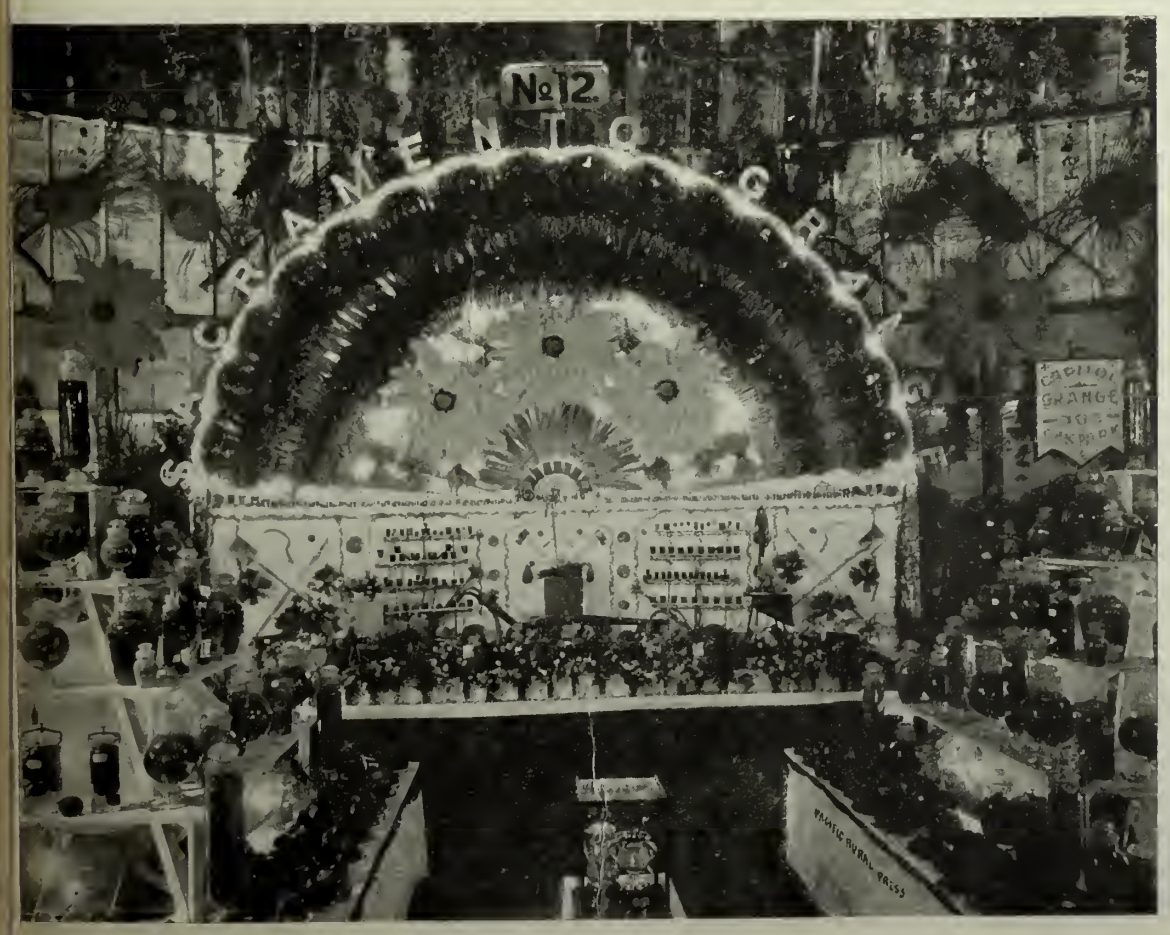


CORN CROP ON DRAINED LAND IN SAN MATEO COUNTY, CAL.

We are glad to have this pertinent illustration of the advantage of drainage when all the local conditions demand it. There are many swales and catchment areas which can be profitably reclaimed by drainage. This is just as true in California as elsewhere up to the measure to which these conditions prevail. There have been notable instances of this truth for years; but there is still much to gain and much land to be reclaimed by tiling. About twenty-five years ago R. G. Sneath drained a swale well up on the hills of the San Bruno ranch and turned a worthless and dangerous morass, producing only coarse wild grass, into a fine meadow. We presume this piece of work has paid him many times the cost.

It is not low land alone which needs drainage. In our regions of heavy rainfall there are sags and low places even on the hilltops, which should either be cleaned out and made into farm reservoirs or else drained and made cultivable and productive. They are worse than worthless usually in their natural state. We hope Mr. Tuchsen's corn field may be suggestive and lead to improvements by others who have conditions inviting it.

We have a letter from the Raisin Association at Fresno calling upon all who are making raisins this year to send as soon as possible the number of trays each one is putting out this year as compared with last year. It is, of course, necessary that the Society should have this information, for it has a direct effect upon the price which will soon be fixed by the Association.



PORTION OF SACRAMENTO COUNTY'S EXHIBIT AT THE STATE FAIR.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, September 30, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The late crops are having every chance in the world this year and they are doing well with it. Raisin grapes and wine grapes are worth saving this year and the climate is saving them. It will mean a lot of money to have this fine, dry weather continue for some time yet. And it may continue, for October is a very uncertain month as to rainfall. The average for the whole month for the last twenty-eight years is only 1.19 inches in San Francisco and less for interior points. It is true we may be nearly drowned, as in 1889 with 7.28 inches in October, or we may escape even a single drop, for October, 1890, did not even spot the dust in the rain gauge. The chances are that everything of value will be brought under cover this year, but the grower should take no unnecessary chances; get everything in shape for rain and then sit in the sun and take comfort in it.

Wheat is looking up, both in spot and speculative dealings—in fact, better in the latter, for the situation reacts from the pressure by a bear firm which has collapsed in Chicago. Wheat seems to be buoyant this year and is looking for chances to rise. Barley is firm, but not changed; country buying at full rates and shipping both continue. Oats are weaker, through large sales of an Oregon holder, who became weary and dropped his load on this market. Buckwheat is scarce and wanted. Choice wheat and tame oat hay are now in fair demand. Bran is higher and steady. Meats are quiet. The dried fruit market is active and large orders to fill. Peaches are rising, as they ought to, and plums are following. Prunes are in good demand, but the figures are too low. Wool is expected to open business next month. Hops are dull. Wine grapes are very high and hard to get, Four hundred and sixty cases of honey, shipped this week for England, ought to sweeten John Bull and the Boers if it gets there in time.

THE present year shows a remarkable increase in the shipment of green deciduous fruit from California up to September 13 and 5337 carloads have been shipped against 3554 for the corresponding period in 1898. It is expected that at least 1500 more cars will be added to these figures by the end of the season, November 1st, and the record for the year will reach 7000 carloads in all.

Distribution of Fruit Varieties in California.

The Division of Pomology of the United States Department of Agriculture has just issued a revision of its catalogue of fruit varieties commended for the various fruit regions of the country. This is the catalogue about which there was so much criticism and controversy in California in 1897-8. Much of the criticism was ill-placed because the purport of the publication was misunderstood, but the sincerity of purpose of the Department was shown by the fact that Secretary Wilson ordered a revision to allow for any improvement that might be made. The well-known pomologist, Prof. W. H. Ragan, of Indiana, was entrusted with the details of the work under the direction of Col. G. B. Brackett, U. S. Pomologist, and a special inquiry for the Pacific Coast States was made. It is to be hoped that the work will be accepted as a closer designation of the distribution of varieties for this region than was previously made, but whether it merits this credit or not, the writer, who had something to do with the work, prefers not to express an opinion.

There are, however, a few points concerning the districting of California, according to the growth of certain fruits, which may be stated, in answer to the wish of some who are little acquainted with the facts, that description or mapping of particular areas for each fruit could be made. Experienced California fruit growers know that such an effort would result only in confusion; but distant readers, and some of our own people who have given little attention to the matter, still call for a map in which the area of each fruit is depicted. A few statements of facts may be of assistance to them. Let us see how colors or other marks could be used to express the following conditions:

First.—The apple and pear seem naturally to go together, but the pear leaves the apple behind when it runs into the interior valley heat, and carloads of pears are grown where you can hardly find an apple tree, because the apple foliage is less tolerant of heat than that of the pear, and the fruit of some pear varieties reach good market quality where the heat rushes winter apples to maturity in the early fall—juiceless and with no keeping quality.

Second.—The prune and the peach come nearer to coinciding geographically than any other of our deciduous fruits; but the peach does nobly in foothill situations, where the plums, or many of them, bear small fruit, and the trees nearly gum themselves to death, in spite of the greatest care in cultivation and moisture supply. Again, the apricot, plum and peach associate freely over considerable areas, but the apricot is left behind when the other two draw near the upper coast of the State or when they rise above a certain elevation on the mountain sides.

Third.—The cherry will not go with any of its pomological associates into interior heat nor will it follow them to many coast situations south where they thrive. It is the most exacting of all the deciduous tree fruits of soil depth and moisture and of moderate atmospheric humidity as well. The currant and gooseberry are like the cherry but a little more so. The blackberry will go everywhere if adequate summer moisture is afforded and the strawberry is like unto it, but the raspberry refuses to follow, although it will go farther in their direction than will the currant or gooseberry. The grape is, as you might expect, the most enduring of all our fruits, and objects to nothing except too cool coast localities, where summer heat is not enough for ripening, and the fig is about the same in behavior.

Fourth.—The almond agrees most closely with the apricot, but the English walnut forsakes them both in some interior exposures, while it strays off by itself into upper coast valleys where no one would plant an apricot on a commercial scale.

Fifth.—Even the orange and lemon, though coincident over considerable areas in satisfactory growth of trees, are showing distinctive regions quite plainly in character and profitability of fruit. Even such wide pomological differences as exist between the citrus and deciduous fruits do not confine them to different geographical regions. Even in the chief citrus regions deciduous fruits are grown on soils and elevations unsuited to the main fruits of the regions, and in the chief deciduous fruit regions satisfactory citrus fruits can be found in places good for them. There is another interesting matter connected with the listing of varieties of fruits, and that is that whether the variety grows and bears well or not is only half the question. Commercial considerations intrude and frequently exclude from planting varieties which reach highest development. This is conditioned upon the demand for various purposes, and is purely a commercial consideration, but there are other characters which enter into the popularity of a variety which may be partly biological and partly commercial. Let us cite a few instances:

(*a*) Early apples will grow and bear well everywhere in the State that apples will succeed in at all, but no one plants early apples for profit in a late ripening region, because they reach the market when better, later varieties are in from early regions. This is purely a commercial consideration.

(*b*) Late fall and winter apples are not planted in an early, interior, hot region, because the forcing summer heat hurries them to early maturity at the expense of juice, flavor and keeping quality. This is a biological factor.

(*c*) Early peaches have the same limitation as cited for early apples, but late peaches cannot be successfully grown where most of the late apples are grown, for two reasons: first, in the autumn the heat in the coast regions is not enough to ripen a very late peach; second, in the mountains the peach loses its crop by frosts, which the later-blooming apple escapes. On the other hand, the late peaches do best in the very same regions that produce early peaches profitably, because the long hot summer which is destructive to a late apple brings a late peach to its highest estate.

(*d*) In the case of grapes, the factor determining pomological listing is almost wholly commercial. It is not that the east-American species find unsuitable biological conditions, but because they are inferior from our commercial points of view, that they are so little grown in California. The vinifera varieties are superior for raisins and for wine, and the popular taste prefers them for table use. A carload of slip skin grapes will glut the San Francisco market and put the price below profit, while the vinifera varieties will sell in enormous quantities. There is no natural difficulty in our growing the eastern varieties with training that suits their bearing habit, but there is no inducement to do it.

We have cited all these facts to show how difficult it is to define the limits of different fruits in California; also how hard it is to prepare approved lists for the guidance of planters. To the request to give the names of varieties which "do well in any locality," the expert has always to remember that the term "do well" includes a host of considerations and endeavors to answer the question with a view to all the conditions involved.

NUT buyers have been especially active this year, and the Chicago *Tribune* says the California product is cornered and is being held so closely in the hands of the combination controlling the market that all offers to sell were withdrawn. The combination in control of the market is said to include two houses prominent in Chicago and a firm in California. The price paid in California is said to be in the neighborhood of 9½ cents a pound. The nominal prices of the same grade of nuts were 12½ cents in Chicago when selling ceased.

IT is telegraphed from Washington that Professor Swingle of the Agricultural Department has started for California to give the fig growers who are attempting to propagate the Smyrna variety of figs the benefit of his information on the subject. Professor Swingle visited Smyrna for the special purpose of studying fig culture. He secured and forwarded specimens of the blastophaga to California, and so far as the experiment has proceeded it has proved successful.

THE Irrigation Congress being held this week in Montana seems to be a very active and effective body. The representation of the Western States is quite full and the Eastern States unusually well represented. Indiana on the east, the coast States on the west, Montana on the north and New Mexico on the south represent the limits covered by the State delegations, who are enthusiastic and sincere. We shall have the leading transactions of the body later.

QUERIES AND REPLIES.

The Best Oats.

To the Editor:—Please tell me what kind of oats is the best for chicken feed—red, black or white oats?—Wm. Meinecke, Vacaville.

This is a troublesome question in some respects. The best oat to grow for poultry feeding is unquestionably the one which will give the best crop in your locality, without any reference at all to color. You need a variety which will resist rust and give good, full heads. In this respect the dark-colored oats are generally most hardy and resistant; but, so far as we know, there is little choice between the reds and the blacks. As for buying oats for poultry, the peculiar fact arises that the light weight oats have, as a rule, a less percentage of hull than the heavy oats, which is just what one would not suspect. As for color, however, in this respect we do not find that it gives any basis for discrimination.

Husk or Hoose.

To the Editor:—We have a disease among calves which local veterinarians cannot give name, cause or relief. In a bunch of 100 head from one month to six months old, they have nearly all taken it. The calf droops its head and ears, runs at the mouth and nose a frothy substance and has a quick, short cough. On examination after death the windpipe and cells in the lungs are found full of small white worms from two to three inches long about the size of an ordinary silk thread. The calves have been pastured on alfalfa.—R. C. Andrews, Clearwater.

The trouble is known as "husk" or "hoose," and the worm is called the lung worm. The calf takes up the embryo from pastures upon which other calves have run, and thus the infection is rapidly spread. There is thought to be no satisfactory treatment except tracheal injections, which can only be made by a skillful veterinarian. Fumigation by sulphur burning in a close apartment, in which the man stays in with the calves to be sure they do not get too much of the vapor, has often been recommended, but is claimed to be unsatisfactory, on the whole. The best treatment is to isolate the coughing calves, keep the whole band well fed and keep them all away from suspected pastures which can be used by mature animals which are not subject to the disease. The plants in the pasture have nothing to do with it except as they may shelter the embryos coughed out by the infected animals.

Lime, Salt and Sulphur Wash.

To the Editor:—I have some apple trees that have the San Jose scale. Please send me recipe for lime, salt and sulphur wash.—Reader, Watsonville.

So many are asking for this that it seems desirable to republish the recipe:

Unslacked lime	40 pounds
Sulphur	20 pounds
Rock salt	15 pounds
Water to make 60 gallons.	

Place 10 pounds of lime and 20 pounds of sulphur in a boiler with 20 gallons of water, and boil over a brisk fire for not less than one hour and a half, or until the sulphur is thoroughly dissolved. When this takes place the mixture will be of an amber color. Next place in a cask 30 pounds of unslacked lime, pouring over it enough hot water to thoroughly slack it, and while it is boiling add the 15 pounds of salt. When this is dissolved, add it to the lime and sulphur in the boiler and cook for half an hour longer, when the necessary amount of water to make the 60 gallons should be added. Strain through a piece of sacking and apply with a good spray nozzle so as to get a good coating upon every part of the bark. This is to be used only when the tree is perfectly dormant.

Spray Pumps, Watermelons, and Minorcas.

To the Editor:—(1) Could you let me know through your paper which is the best spray pump for a small orchard (150 trees), and what nozzle is the best for general use? (2) Do watermelons drop from the vines when ripe, or is there some other way of telling their maturity? (3) Should genuine Black Minorca chicks 2½ months old still have two or more white feathers in their wings?—Subscriber, San Rafael.

The best spray pump must be largely determined by individual preference. All manufacturers are prepared to meet the demand for a small spraying outfit, and each purchaser must choose for himself. Write to those who advertise in the Pacific Rural Press for their descriptive circulars of pumps, nozzles, etc.

It will not do to wait for watermelons to part from the vine. They are apt then to be overripe. Some trust to a disposition to let go when the melon is gently raised, but even this will not do altogether. The appearance of the stem is significant, and some trust to the sound of the melon on rapping with the knuckle. All such signs of maturity are too subtle to be conveyed by description; they must be learned by practice and observation.

The Black Minorcas should be rich black throughout; even grayish tips are considered defects. Sometimes the young chicks show a whitish brown, and adults have occasionally a little white in their plumage, but your birds are sporting too much white. If the stock is pure, the white should be expelled by selecting breeders away from it.

Sweet Potato Growing.

To the Editor:—Kindly let me know of the best method of starting sweet potatoes. They are to be started in the foothills of the Sierra Nevada mountains. The soil is of volcanic nature.—Reader, Red Bluff.

Sweet potatoes are usually started by placing the old tubers near together in a hotbed, or in a cold frame in a warm place, in January or February, using a light, sandy soil and leaving the tubers about at the surface. If kept moist the heat will be sufficient to start the young sprouts, and they are broken off close to the tuber when they are several inches high. After all danger of frost is over the sprouts should be set out in the open ground, just as you would plant tomato plants, except that they are nearer together. Make the rows 2½ or 3 feet apart and the plants about 2 feet apart in the row. These sprouts will root readily and if kept well cultivated will succeed very well in the kind of soil you mention, provided that you have facilities for irrigation. Sweet potatoes are grown without irrigation on moist, retentive soils, but with a soil so light as yours, and in a hot locality, it is altogether probable that you will need to irrigate by running the water along between the rows as often as may be required to prevent drying out. The growing of sweet potatoes is discussed at length in our book on "California Vegetables."

Best Varieties of Fruits.

To the Editor:—What kind of grape is best suited to the Sacramento valley at this point, and when is the best time to plant them? Will you name two varieties of peaches—one early, one late—that are best adapted to this valley? The best prune? Best pear?—K., Corning.

These are very hard questions, because the best single variety depends not alone upon the perfect growth and development of the fruit but upon the taste of the grower, if the fruit be for home use, and the taste of the buyers if it be for the market. Do you want your grape black or white or red? Do you want it musky or plain, sweet or sprightly? Do you want it in July or in October? Do you just want to eat it or would you also like raisins or wine? The same sort of questions arise with respect to your best prune and pear, and no one but a mind-reader well endowed with horticultural knowledge could answer them. The most popular grape in California is the Muscat of Alexandria: the most widely grown prune and pear are the Prune d'Agen and the Bartlett pear. Of yellow freestones, which are the best all-service peaches, plant the Foster for medium early and the Salway for late. So far as adaptation to your locality is concerned, they will all do well in your region if on good soil and well cared for. The time to plant them is whenever it is convenient after the ground is well moistened in December until growth starts in the spring, providing the soil is in good condition.

The Camphor Tree in California.

To the Editor:—Is the camphor tree grown in California and is there any camphor made?—R. S. V. P., London.

The camphor tree has been grown for many years as a shade and ornamental trude, but no effort has thus far been made to produce camphor upon a commercial scale. At the State University, some years ago, a small sample of camphor was made from the twigs and foliage and was exhibited at the Fairs as a matter of common interest. The trees are very widely distributed over the State of California, both along the coast and in the interior, and everywhere are much admired for their thrifty growth and natural beauty. There are trees, probably nearly forty years of age, 60 feet in height and 3 feet in diameter at the base. No large plantations have been made, but only scattering trees here and there.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Sept. 25, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has continued several degrees above the normal in the interior, and slightly above along the coast, except in the vicinity of San Francisco. No rain fell during the week, but heavy fogs have prevailed in portions of the State. Raisin making is progressing rapidly in the interior, and the first carload of this season's product was shipped from Fresno to New York on the 18th; a carload was also shipped from San Diego. The fruit is said to be of superior quality, but the yield is comparatively light; and it is predicted that the second crop will also be below the average. Enormous quantities of peaches, prunes and other decidious fruits have been dried and stored in packing houses. Wine making is progressing. In portions of southern California it is feared the orange crop will suffer if the rainy season does not commence early, as the continued hot, dry weather is apparently checking the development of the fruit. Walnut picking has commenced; the nuts are of superior quality and the yield is heavier than last season's. A large crop of hops has been gathered. Plowing and seeding will become general with the first rains. An increased grain acreage is probable in the San Joaquin valley.

Sacramento Valley.

Nearly all deciduous fruits have been gathered, but there are some prunes, grapes and almonds out yet. The hot weather has been favorable for ripening late fruit and for drying. Pears and grapes have yielded better crops than expected in some sections, and prunes are equal to early estimates. Oranges and olives are holding their fruit well, and prospects continue good for a larger yield than that of last season. The hot, dry days and cool nights are forcing the ripening of oranges. Plowing and seeding will begin with the first rains.

Coast and Bay Sections.

The continued hot weather has been beneficial in ripening late deciduous fruits, and very favorable for drying. In some sections the yield of prunes is above the average in quantity, but the quality of the fruit is inferior. Grapes are ripening and wine making is in progress. There is a scarcity of help in some sections. There is still quite a large amount of grain the field in portions of the coast region, and harvesting progresses slowly. Hay baling continues. Large quantities of sugar beets are being gathered. The bean crop will be heavy. Hop picking is nearly finished; the crop is much heavier than last season's though not equal to earlier estimates.

San Joaquin Valley.

Continued warm weather has been favorable for raisin making, and in some sections the first crop is nearly all stacked and in sweat boxes. Deciduous fruits are being rapidly dried and stored in packing houses. The yield is very satisfactory. There is a large crop of figs, superior in quality. The yield of prunes is generally above expectations. Wine grapes are plentiful. It is predicted that the second crop of raisins will he below the average. The first carload of this season's raisins was shipped from Fresno New York on the 18th. Preparations are being made for a large acreage of grain and seeding will soon commence. In some localities the soil is too dry for plowing. The last crop of alfalfa is being harvested. The yield is fair and quality good.

Southern California.

One carload of this season's raisins was shipped from San Diego during the week, although in some portions of that county raisin making has not yet commenced. High temperatures have been favorable for ripening and drying deciduous fruits, hut injurious to oranges, and in some sections it is feared the crop will suffer unless the rainy season commences early. Wine grapes are being picked and wine making is progressing. The crop is nearly up to the average. Walnuts are being gathered. The crop is of better quality than last season's and heavier than expected. All vegetables are thrifty.

Los Angeles Summary.—The warmest weather of the season occurred during the past week, with some drying land winds, though in the coast sections the nights were moderately cool, with occasional heavy fogs. The warm weather caused a perceptible growth in citrus orchards, where water was sufficient, but in sections where there was a lack of water vegetation was adversely affected by the dry, hot weather, and some fruit was sunhurnt, where not protected by foliage. Late peaches ripened fast. Prune drying and raisin making continue, some of the latter being already cured and sent to markot. Walnuts are dropping. Bean cutting continues and some being threshed. The crop is generally light. Sugar beet hauling to factories is nearing the end.—G. E. Franklin.

Eureka Summary.—Hot and dry in the interior; cool and foggy along the coast. Threshing grain about completed. Prune drying progressing finely. Condition of fruit generally favorable. Apples are considerably below the average. Tomatoes are plentiful.

The following data for the week ending 5 A. M. Wednesday, September 27, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka	.00	1.15	1.14	1.05	48	68
Red Bluff	.00	.02	.37	.54	64	106
Sacramento	.00	.02	.36	.28	62	100
San Francisco	.00	T	1.06	.32	48	72
Fresno	.00	.00	1.12	.31	60	102
Independence	.07	.07	.31	.06	60	92
San Luis Obispo	.00	.00	.20	.34	50	90
Los Angeles	.00	.02	.08	.14	54	88
San Diego	.00	.06	.06	.10	60	92
Yuma	.00	.06	18	.66	68	108

FORESTRY.

The Forest Problem in the West.

By ABBOT KINNEY, of La Manda Park, at the recent meeting of the American Forestry Association at Los Angeles.

The economic interest of the American people in their forests everywhere, and especially in the West, is to preserve the integrity and water-holding power of the mountain watersheds of the country. This is clearly the public interest, whether these mountain watersheds could or could not support by their products and wise use a system of management guaranteeing the integrity of the water-holding power. The public interest is both economic and humanitarian in preserving the mountain forest covering. Without forest preservation most of our remaining wild public land districts cannot be settled, and districts already settled are likely to lose in man-sustaining power. This has occurred already over wide areas of the world from undue forest denudation, on the one side by the irregular or exhausted water supply and on the other by the destructive action of flood and torrent through sudden rainfall delivery from bared areas. The proper preservation of forest balance does not require that ripe timber should not be cut, or that other uses, such as mining, should not be enjoyed.

Local Considerations.—The interest and requirements of districts vary in what treatment of forested areas is most advantageous. In most of the West and in all of the Southwest the conditions of topography, rainfall and climate exact the highest care and treatment of the comparatively small forested area, all of which in the Southwest is on mountains or high plateaus only.

In this district it were better, for the country and for its people, that no use should be made of forest lands or forest products than to have the forests wasted and burned as at present is generally being done.

However, no such drastic remedy as the isolation of the forests from human use is necessary. Under a proper and intelligent forest system the integrity of the watersheds can be safely maintained, and yet plenty of use can be found for both land and products, uses that can go on without fatal results to the forested area.

It is only in the extreme southwestern mountains that the conditions are such as to counter-indicate the cutting of any timber or even firewood in the mountains. But even here mining, resorts, power companies and irrigation works can be established with no disadvantage to the trees or chaparral, but rather to their increased safety. The nation can gain by preserving its forests in safe proportion, and can in no way consent to see this proportion of safety to its people diminished. The nation will gain by forest preservation even though the system be without any resources or power of self-sustenance.

Special Issue in the Southwest.—While forestry has become a living issue in the Atlantic States, through the depletion of perennial flow of springs and streams and increased flood action, and probably by greater and increasingly injurious extremes of frost and heat arising from forest destruction, in the West and Southwest effective forestry is a question of life or death.

With irrigated districts, present or prospective, the conservation of the forest natural reservoirs is at least as important as the conservation of any part of the rainfall by artificial storage diversion or distributing systems.

The lands on the mountains and watersheds in this part of the United States are in large part Federal public lands. By the extensive reservation of forested mountain lands from sale or settlement, the Federal Government has committed itself to a rational forest system. What the situation demands and what the people desire is a forest management of these important mountain waterseds that will serve the highest interests of the entire community. Interests built up under the neglect and waste and abuses of the Government's forestal mistakes and latches should be treated with all the consideration that the safety of the communities affected and the welfare of the great majority of the people will permit.

All foresters, and especially all foresters in the Southwest, endorse, and must endorse a Federal forest policy, whether the forest management pays its way or not.

The Government forestry systems of European nations, of Canada, Algiers, India and Australia, are self-sustaining, and for the most part bring in considerable revenues. Curiously enough, it is in the countries like Spain, Arabia, Persia and Turkey in which forestry is neglected, where national productive power has most diminished, and in which both nation and people individually are poorest.

The success of other countries in maintaining national forest systems invites our attention to this subject.

The principal revenue from all forest systems is from the sale of forest products. These are mainly merchantable timber and fuel. The Western districts in which the principal areas of public lands exist, are situated so that one part or another of California would resemble their conditions closely enough for preliminary plans and outlines of forest management appropriate for the entire Western public land areas.

California's Forest Area.—California contains mountains and plains, valleys, farm lands and deserts. In the northwest its climate is one of if not the moistest in the United States; in the southeast it is one of the most arid. In the redwood belt there is a very large rainfall, and almost continuous fog and mist between the rainy seasons. In the Cocopah desert years pass without a drop of rain, or even a cloudy day. California conditions, carefully considered, can do much to outline a forest and public land policy. What is the public land situation here?

California contains 99,361,083 acres of land, of which

The area appropriated is	40,392,418	acres
The area unappropriated is	43,841,944	"
The area reserved is	15,127,621	"
	99,361,083	"

This gives a substantially accurate picture of our land situation. In the other Western States the public lands are in much larger proportion.

The above figures, however, do not give the exact facts. Of the appropriated area some has gone to the State for taxes. In some of the mountain counties this tax area is quite considerable. The State Comptroller and the county officers thus far have found no general record of this tax land, therefore no one can tell to what it amounts.

Of the area reserved, a considerable part is patented and in private hands. In some reserved districts the proportion of private holdings is large, in others very small.

The National Yosemite Park, of about one million acres area, is a little more than half in private hands. The San Gabriel reserve, from the Cajon west, has a very small proportionate area in private hands, while the San Bernardino part of the forest reserves of the south has a considerable area in private hands.

The reserve system suggests the policy of Switzerland. In that republic experience has demonstrated the immediate and often awful results of forest denudation on steep, high mountains to lower agricultural lands.

From this experience has been evolved a forest system which lays out, as a part of its functions, forest reserve districts. The lands within these, whether public or private, are under public control, and not a tree can be cut without public authority. We may come to this system some day.

Public and Private Lands.—There are in this State about 83,000 square miles of public lands in the hands of the Federal Government. An examination made by expert civil engineers on section lines, and mapped by the old State Board of Forestry, shows in its report that the mountain land with merchantable timber is substantially all in private hands. There is, speaking generally, no timber of merchantable quality and accessibility in California not in private hands.

Fuel and small wood costs more to bring out of the high Sierras at present than it will bring. There are restricted districts where the waste and fallen wood or small standing timber could pay its way for use as ties, posts, fuel or mining, but no large revenue is in sight from this source at present. Consequently, the source of revenue and support of foreign systems is absent in California.

We may assume that the known conditions in California in this respect in one or another of its districts apply to those of the entire West.

There is, however, a source of revenue to the Government from a rational management of its mountain forest lands, when handled in conjunction with the development of public irrigation works of the vast area of arid public land.

The reason why there is such a large amount of public land in California and in the West generally is that the land is all in an arid climate, and that it is therefore incapable of supporting a farmer or settler, without a secure supply of water for irrigation, and often for domestic use.

Forests and Irrigation. — The mountain forested areas are all incapable of agriculture in the Southwest. There is consequently no gain of productive area, as in the settlement of Ohio, for instance, by denuding them. On the other hand, these forests are the natural reservoirs of the Southwest.

The forests in this section are of the highest importance both to the irrigation districts already developed, and also to the enormous areas that may by future irrigation works be made fertile.

Storage reservoirs, diversion works, ditches, etc., are all safer and more permanent when under a forested watershed than under a bare one. In the first case, with forest covering, there is a minimum of flood action, and practically no torrential detritus to fill up the works. From a denuded watershed the water delivery is irregular, torrential and detritus-laden.

The public land now at its limits, or near its limits of support of population, can, by judicious irrigation works, be made capable of supporting a population of between fifty and one hundred millions. Irrigated land has always been as capable as that for supporting the densest population from agricultural returns. We see this in the history of the Euphrates and the Nile. In both of these cases, and in the more modern developments in India, we see that the important works were carried out by the community or Government, were managed by the community, are thus managed, and that new work for further development in the application of water to land in genial and dry climates, such as those of India and Egypt, is planned or being executed solely as Government undertakings.

Why the Government Should do it.—There are three good reasons with us for this policy. The first is that the lands susceptible of improvement are largely public lands. The second is that the undertakings are too large for most private initiative, and the third is that a public administration of irrigated lands is the only one in which the land occupants can feel safe in not becoming serfs of the water company, as is now practically the case in the rich, irrigated valley of the Po, where the returns are large, but the people in misery.

Governments in the past and governments now recognize the advantage and propriety of making their lands productive by public irrigation works. The peoples who have done this in the past have been among the greatest. One of the most powerful governments of the present day, that of Great Britain, is now, as it long has been, engaged in such irrigation development. The dam on the River Nile, near Assouan, will be the greatest land reclamation work in the world. The values created by the application of water to land in Egypt will far exceed the values created by the exclusion of water from land in Holland. Both are Government undertakings.

Other Government Work.—In this country the Government has undertaken land reclamation by excluding water, as by the Mississippi dykes. It has also added to the land values and product values by the construction of harbors and canals, thus reducing or removing freight tariffs or lighterage and landing tariffs. The States on or having rivers have been benefited by this policy. So also the coast States or those on the lakes or served by the great Sault Ste. Marie canal have been benefited; so has the country generally been benefited.

It is eminently proper that the people's Government should apply this policy to the development of the rich and sunny Western lands that cannot produce and serve mankind without water. In this case the benefit is direct to the public. It is homes for the people that will be created. It is, of course, markets and a high productive-power population in our own bounds that we thus create. It is the conservative agriculturist that we thus introduce and encourage to balance the more radical bodies of employes in the great manufacturing districts. Fifty milllon such Americans will consume more American products and support more American trade than all our present foreign trade combined.

Taking the public land area as a whole we find some that is inherently worthless, some that can be made good and productive, some where forests and their products can be safely used under reasonable regulations, some where the forests can only be safeguarded but not used, as in the chaparral mountains of the South, and a wide district that is at present used for pasturage, excessive and premature. The pastures thus deteriorate and carry less stock.

Forest Lands Should be Leased with Proper Regulations.—The public land pastures have deteriorated and are deteriorating in stock and sheep-carrying power. Fighting and disorder is everywhere present among the pasture users. Sometimes they have wars. These stock and sheep men, as far as seen, welcomed a proposed system of leasing the public lands appropriate to pasture, under judicious restriction as to the number of stock permitted on each section and the time of year when the stock should go on. The public lands in California have a present value for pasturage that varies with seasons. It is estimated to have an annual rental value of not less than $250,000 and may exceed half a million dollars. Its rental value varies with the seasonal rainfall. The stockmen would be glad to pay rent and thus know upon what feed they could rely, without the present accompaniments of murder and arson.

These districts where pasturage injures the watersheds could have the stock reduced to a safe number by reasonable regulation or entirely removed.

When we consider the vital importance of the entire forest question, and past and present precedent in the matter of forestry and irrigation; when we consider the effect of forest denudation in filling up navigable rivers and harbors, the importance of water to miners, to cities and to irrigators; when we further reflect on the empire at our hand and in our borders to be created by irrigation works, we can agree that forests, reservoirs and public land management all go hand in hand.

The land system as a unit can be self-supporting and revenue-producing. All interests can be fairly dealt with and the country brought to its highest productive power.

Those who engage in promoting this great work have strenuous efforts before them; they deserve the garlands of reward as civic patriots as much or

more than those who foment distant foreign wars. The conquest of this empire within our bounds for our own children is more useful, more profitable, more secure and more glorious than any foreign conquests can ever be.

THE VINEYARD.

Resistant Vines.

To the Editor:—I have read with a great deal of interest the communication under the above heading by Frank T. Swett, the more so as I know him to be a very observant cultivator, and the article shows that he looks at it from a conservative and practical standpoint. Yet I cannot agree with all his views, and as I have handled and planted resistants here for eighteen years, observed them closely, and introduced the Lenoir and other varieties of the same class, I will give your readers my views on this important question. I consider it very important, as I believe the future success of the industry hinges on that question, and will say here that I consider it money thrown away, to plant vinifera, as they will very likely be killed by phylloxera before they come into bearing.

I differ from Mr. Swett in the time it takes to bring a vineyard into bearing on resistant roots. This may be so on Riparia, as they are slow of growth, especially in dry soils, but I would not feel safe in planting them anyway, for reasons which he has already explained—their shallow rooting especially, which makes them unfit for stocks, except in locations where they are under the influence of moisture from large bodies of water. They still succeed in the vineyards of Judge Stanly and in the lower Sonoma valley, but are unfit for dry locations and soils. When the ground is well prepared, plowed and subsoiled deeply, and planted with cuttings where they are to remain, we have found the Lenoir strong enough for grafting after two season's growth, and had a fair crop the fourth season. This is experience in my own vineyard with Lenoir, Herbemont and Louisiana as stocks. As they are more difficult to root than either Riparia or Rupestris, we plant two cuttings to each stake, taking up one when both grew, and filling vacancies which may occur with these. As to Rupestris St. George, I have seen a young vineyard of Beringer Bros. at St. Helena, where the cuttings were planted two years ago, and about half of them were strong enough to graft last spring. The grafts were strong enough to bear a good crop the third season, and produced a few bunches even this summer. The stocks did not show a strong inclination to sucker, and even if this should be so, it can easily be prevented by culling out the lower buds of the cutting when planting.

I think it in every way preferable to grafting cuttings, rooting them in nursery and then transplanting them to the vineyard, where it will take, as Mr. Swett says, at least four years to five, to bring them into bearing. We must consider that transplanting, if ever so carefully done, retards the growth of the vine, and is the cause of additional expense, far exceeding the cost of grafting in vineyard when established. As to Lenoir not being resistant, I do not know of a single case, even in the driest soils, where the vines were killed by phylloxera in this State, but I know of a great many acres of that variety planted from fifteen to twenty years, which are still strong and vigorous. In my own vineyard, at least the part which was planted with vinifera before I bought it, and where vacancies were filled with Lenoir and Cunningham that were grafted with Sauvignon Vert, the viniferas having all died out or were killed by the insect, the grafts are in full vigor and bear full crops. These were planted twelve years ago, and Mr. Swett, from what I know of his vineyard, need not fear that his Lenoir will be destroyed.

I know of vineyards where the grafts on Lenoir died off, but after close investigation it was found that they had been grafted so deep that the scions took root, which, being non-resistant, were killed by the insect. The best proof of the confidence of our planters lies in the thousands of acres planted in Napa valley within the last few years, and all, as I believe, doing well.

Yet, from what I have seen of Rupestris St. George, I would be inclined to plant it, as it propagates much easier than Lenoir. But I doubt whether a sufficient quantity of the cuttings can be had in this State to fill the demand, and prices will be high, while Lenoir can be had in abundance and at low rates. Furthur, we must not forget that French experience, valuable as it undoubtedly is *there*, is not *our* experience, and that it has been planted here but a few years, while the Lenoir has stood a test of twenty years. As to varieties to graft for red wine, the Petit Sirah or Serine, Val de Penas and Bulard are here very much preferred to Mataro and Mondeuse, as they are better bearers and make finer wines. But the preference now seems to be for white wines, which bring higher prices and are more in demand. This is but natural, as most of the young vineyards were either planted or grafted with red wine varieties the last six or seven years, and the future planter will do well to consider this. However, in planting as I would advise, it gives full time to consider this question. At any rate graft the *best*, red or white, taking quality as well as productiveness into consideration. For white wines I would advise Semillon, Franken Riesling or Sylvaner, White Pinot or Chablis, and Red Veltliner, all abundant and sure bearers and making excellent wines.

Grapes are bringing here from $16 to $17 per ton for choice varieties, and there seems to be no prospect of lower prices for the next five years, assuming that the demand is regulated by the supply, which presumably will fall very short if phylloxera continues its work, which may be a "blessing in disguise," as it will bring about a more rational system of viticulture and better quality.

Napa. George Husmann.

The Anaheim Disease.

To the Editor:—I would answer your "querist" of Los Gatos to the question, "Is resistant stock able to withstand and resist the attack of the California vine disease, otherwise called Anaheim disdisease?" with an emphatic "No!"

Resistant vines, or so-called direct bearers, probably will resist the Anaheim vine disease, but when grafted with viniferas, they will not.

It seems this disease has made its appearance in pretty nearly all vineyards—at least, on the west side of Santa Clara county—but will likely disappear after a heavy winter's rain.

The appearance of this disease here is nothing new, as I, as well as others, had noticed it already some ten or twelve years ago. So far, I have heard that when this disease attacks the vine early in the season, the vine is gone, when later in the season, it will recuperate. Wm. Pfeffer.

West Side.

SHEEP AND WOOL.

California Goat Breeders' Meeting.

Reported for the Pacific Rural Press.

The annual meeting of the California Angora Goat Breeders' Association was held at Sacramento, September 14, 1899, with President C. P. Bailey of San Jose in the chair. After approving the minutes of the last meeting the president gave an interesting account of the industry in the United States. Since 1845 the industry has grown to its present magnitude and, like everything else new, it has had many obstacles to overcome. In that year the sultan of Turkey sent to the Department of Agriculture for a man who understood the raising of cotton. Dr. Davis of South Carolina filled this position for two years and on returning to his native State brought with him nine head of Angoras and two Thibets. He disposed of two pairs of these, one of them going to Dr. Amberly, Watertown, New York, and the other to Colonel Peters of Georgia. Colonel Peters was a civil engineer and a man of unusual ability. He was for forty or fifty years a leading fine stock breeder, and in some of his writing stated that none of his live stock furnished him as much pleasure or profit as his Angoras. Colonel Peters experimented by crossing these on to common goats, and in 1855 the cross looked so well that he sent to all adjoining States and bought the remains of the Davis importation. Later he made another importation from Turkey of three head, but these were not satisfactory, as they were gummy, and in competition at the World's Fair at New Orleans in 1885 Colonel Peters recognized the superiority of California raised goats, and to get new blood bought four bucks from Mr. Bailey. Later he bought four more bucks and twelve does. After some years Colonel Peters died and his herd has been scattered.

Probably the first Angora ever brought to California arrived in 1861, and came from the Peters herd; but the first direct importation to this State from Turkey arrived in 1867. There were six head, and these were equally divided between Thomas Butterfield & Son, William Landrum and C. P. Bailey. The same year James Sargent and Dr. Flint got one pair from this importation and Grey & Gilmore bought the remainder, so that all this lot came to California.

Two or years three later Thomas Butterfield & Son brought the Brown & Diehl importation from Ohio.

In 1870 a Turk by the name of Entychides brought a small importation to California, which were largely purchased by Shirland & Gilmore.

In 1876 Hall & Harris made the last importation direct from Angora. In the Pacific Rural Press of May 24, 1879, Mr. Harris' report of this importation and his expenses in Angora are given at some length. Mr. Bailey had had goats from all of these importations, and, appreciating the need of new blood, imported two bucks from South Africa in 1893. One of these bucks was fine, and this year he received a prize buck from Africa, which has been pronounced by a number of experts the finest buck ever imported to the United States.

A general discussion followed the president's address and the quality of mohair most sought for by our American factories received considerable attention. Two mohair mills sent men to California this year to buy the clip. They objected to the short, half year's growth, but paid the highest price for very fine, long hair. Now that the reserve stock of hair which was imported before the present duty went into effect has been used, the mohair growers may expect a good price for their clip. The business is in a healthy, prosperous condition and the prospect for the coming year is good.

The following officers were elected for the ensuing year: C. P. Bailey, president; E. V. Cowell, vice-president; J. M. Wimmer, treasurer; C. E. Bailey, secretary.

THE APIARY.

Bee Keeping on the Sacramento.

During a conversation had with J. H. Erich of Nicolaus we were surprised to learn of the extent of bee culture in this county. Mr. Erich says we have the banner bee county this year and that more honey is shipped to San Francisco at present than from any other county in the State. By way of showing us the value of the output he told us that at present there are 1600 stands of bees in the county and 400 more will soon be brought to Dry Creek. Nine hundred stands were brought up from Los Angeles and Bakersfield this year on account of the past dry years. The comb honey will net $10 in the San Francisco market, and strained honey will bring 6½ cents a pound and twice as much honey can be raised by using the combs over again—the strained honey being extracted by a centrifugal process which does not destroy the comb. It can easily be seen that a revenue of $20,000 or more will soon be coming into Sutter county on account of this industry alone.

Mr. Erich says bees can be raised all along the Sacramento and Feather rivers and that the heretofore useless tules are now a paradise for honey men. The tules and the banks of the rivers have of late years become covered with a species of wild clover which Mr. Erich calls "carpet grass" and the name is a good one as the little flowers cover the ground like a carpet, and from this flower the finest kind of honey is made, being clear as crystal and of good flavor. The Nicolaus honey is known in the city markets as "carpet grass honey" and already they are unable to supply the demand.

The origin of this carpet grass is in doubt, but it very likely came from the mountains of Plumas and Butte counties, being carried down by the waters of Feather river and soon obtained a foothold along the banks. After each period of high water the surrounding tule lands became covered with it and as it is a very hardy plant and grows vigorously that country is now almost completely covered with these little white flowers. Drouth does not seem to injure it and even the sturdy Bermuda grass is fast disappearing before the encroachments of this honey plant.

Mr. Erich has been in the honey business for twenty-five years, sixteen of which he has spent in this county. He has given the matter great attention and is now a master of the art. At present he has three apiaries and will soon establish another and his income is one which many a large farmer might be proud of. We believe if every farmer would add honey raising to his other sources of income, it would prove very profitable.—Yuba City Independent.

FRUIT PRESERVATION.

The Seeded Raisin.

As this form of raisin promises to comprise ere long a considerable fraction of the crop, it is interesting to have an outline of the steps by which it is secured. To obtain this information a Fresno *Republican* reporter visited the new packing house of Wm. Forsyth which was in operation, and he was given every opportunity to ascertain the processing of raisins. In this connection, it may be mentioned as a fact worthy of note that seeded raisins is the cleanest and purest fruit put on the market. The processing implies no dipping in solutions, as with prunes and most other fruit. In fact, nothing is done to the raisins to in any way bring them in contact with any foreign substance.

In the first place, when the raisins are delivered at the packing house in the sweat box, after being sun-dried, they are put through a big stemmer and separated into 4 crown, 3-crown, etc. When that is done they are dumped into a trough and hoisted to the second floor in a bucket elevator. They are then spread on drier slides, or trays, which are piled one

on top of another to the height of eight or ten. They are then removed on trucks to the heating stalls, where they are subjected to a temperature of 130° F. for three hours. They are transferred to another chamber, where they undergo a chilling process.

This alternate heating and chilling make the small stems brittle and render them easily brushed off the berry. It also jellies the fruit and preserves it. The raisins are now dumped into what is called a "hopper," so named on account of a fast moving wire screen on which they fall, which shakes them up and removes any sand that might have adhered to them. From the hopper they are sent down a chute and pass into the stemmer. It consists of a frustrum of a cone, inside of which is a rapidly revolving frustrum. The raisins pass between the two and come out "clean as a whistle."

They are first boxed and then spread out again on trays and subjected to another heating preparatory to seeding. This time the steam is admitted, as well as hot air, thus moistening the berries. When in this condition, they are put through the seeder, the mechanism of which is a secret in all the packing houses. When seeded, they are ready for the market.

THE VETERINARIAN.

Ovine Anthrax.

To the Editor:—Referring to an article in your issue of the 9th inst., giving the name, cause and remedy to a certain disease in sheep, very common in certain localities of California, which generally takes the fattest of the flock, and is designated by the animal passing blood in the urine at death. I would like to say that if Dr. E. J. Creely is correct in calling it anthrax, I think he makes a serious mistake as to the cause and proper remedy, when he says that it is caused by spoiled food or wounds inflicted by shearing.

As to "Spoiled Food."—In sections where this ailment is most common, the grass generally dries up in such a manner as to preserve all its strength, being away from the coast where there is no fog or dampness to injure it, and on the other hand, as soon as it is spoiled or the strength reduced by rain the disease stops of its own accord.

As to Bruises in Shearing.—Such is not the case, for flocks with fleece on are attacked apparently more severely than newly shorn sheep. Often shearing has a tendency to check its progress, or stop it entirely.

Treatment.—Dr. Creely suggests segregating suspicious cases and using disinfectants. There seldom are any suspicious cases. The animal generally dies within a few seconds from the time you notice it is sick, consequently segregating is an impossibility. In regard to disinfectants, my experience teaches me that this is of no benefit whatever. I have dipped the entire flock on various occasions in carbolic and other disinfectant dips with a view to checking the disease, and never yet succeeded.

The only remedy I know to be beneficial is to change ranges or put the band on the road and drive them hard for two or three days. I have also stopped their dying on the same range by holding them on short feed, hence I believe the exercise and short rations they get during fall shearing accounts for the good result. I would like to know the experience of other sheep men. Edw. M. Still.

Aunette, Cal.

Comments by Dr. Creely.

Sheep anthrax is also designated under the names disease of the blood, blood stroke, spleen blood, etc. In general the animals become infected in eating food soiled by bacteridium or its spores; exceptionally the inoculation is caused by fly stings or wounds of the skin at the time of shearing.

Apoplectiform anthrax is the most frequent in sheep. The affected subjects suddenly present the symptoms of apoplexia, they stagger, fall, and are taken with spasms and convulsions; black blood escapes by the natural openings; the urine and fœces are colored with black blood; death occurs in a few minutes; often in the morning on opening the sheep-fold one or several may be found dead.

The fact is that this disease is confined to certain localities and at certain periods. It attacks the sheep always the same way. Their mode of death as well as the quickness, the bloody urine and discharges, make the disease so plain that the merest novice can tell it. The fact that it takes the fattest of the flock is proof positive that the bacteria or spores lie dormant in the soil. They are inert until the atmosphere and surroundings become dry enough to render them active. The reason that all the herd don't die is the others are immunes, either from a previous attack, or the system is in such a condition that they are able to throw off the bacillus.

Mr. Still says the grass generally dries up in such a manner as to preserve all its strength. I might add that the bacillus of sheep anthrax is also preserved in a very active state. He says, as soon as the rain comes the disease stops of its own accord. This is positive proof the bacillus anthracis thrives when it is dry, and becomes inactive when there is much moisture. The fact that the sheep have their fleece proves nothing, as the bacillus enters the body in more ways than one; the principal way is the alimentary canal.

The only preventive is inocculation with anthrax virus, quarantine the pasture, and use disinfectants liberally. Mr. Still's lack of faith in disinfectants is due to not properly using them. Inhaling wood creosote fumes in a closed barn would work like a charm. This could be resorted to when he would notice the disease reappearing. The dipping process would also help to prevent it. He acknowledges the correctness of my diagnosis when he says he stops the disease when he changes ranges.

Anthrax is the most ancient infectious disease of animals. Moses in his second book calls it the sixth plague of Egypt. In his third book he indicates the transmission of anthrax to man by intermediation of clothing. The epizootic disease described by Homer in the first book of the Iliad, and which affected man, mule and dog, was probably no other than anthrax. In the ninth book of his Metamorphosis, Ovid gives an exact description of anthrax expizootics. Plutarch has given the history of an epizootic of anthrax which existed in Rome about 740 B. C. Dionysius of Halicarnassus (488 B. C.) and Livius (425 B. C.) have mentioned examples of anthrax affections which existed first in animals living upon pastures, then in such as were kept in stables, in animals destined for sacrifices, in priests, shepherds and farmers, and lastly upon the whole population. Virgil has described it as a disease of sheep which was transmitted to man by the contact of furs, wool and cadaver. The Arabian physicians knew anthrax under the name of Persian fire, in 1617. Althanasius Kirchner gave the description of a disease of bovines which was transmissable to man and which killed 60,000 people.

Vaccination for Anthrax.

To the Editor:—We notice in your issue of the 9th inst. an inquiry regarding anthrax. It is important to mention the fact that the best, and, indeed, the only successful treatment of this disease is of a preventive nature, and which is accomplished by vaccination with the anthrax vaccine which was discovered by Pasteur no less than eighteen years ago. This vaccine, as you are probably aware, has been very successfully used, even in California, during the last four years, and particularly during the past year, the more extended use being due to the fact that it has become better known on account of our advertising and other work.

Chicago. Pasteur Vaccine Co.

THE STOCK YARD.

Normandy Cattle.

To the Editor:—I have my own estimate of these extraordinary cattle, but I now purpose to give it of others, lest it might appear that I had some selfish motive or interest in this special breed. As I believe in candor and honesty, I freely confess that I have both a motive and interest in these noble animals. I sincerely desire the honor of introducing them into California, as I have the honor of having been instrumental in introducing the Cotentin cattle of Normandy into the United States, through my letters to the New York *Tribune* on the agriculture of France. In this I do feel pride in having rendered the agriculture of my native country a genuine service, because the Cotentin cattle of Normandy are superior to any other breed for two superior excellences—that of the dairy and for beef—the two greatest industries of the United States. These large cattle combine in themselves these two valuable qualities, and they contain them in double proportion. This is happily expressed in "two animals in one skin," and when compared in this respect with the smaller breeds it is not overstated, for the great Cotentin even triplicates these excellences in itself.

An English Opinion.—First, I quote at some length from George Gibson Richardson, an able English writer on "The Corn and Cattle Producing Districts of France." He says: "The cattle are almost wholly the native breed, called Norman, or Cotentin, and have a higher reputation than any in France for the production of butter; no butter in Europe, indeed, makes so high a price as that produced from the milk of these Norman cows.

"The color is generally brindled, black or red. The females are better looking than the males. They are short in the leg, small in the bone, fleshy, and yet good milkers. The breeders generally are most unwilling to admit the smallest cross of the Shorthorn, but it has been partially introduced by some, who maintain that the cross diminishes the bone, increases the flesh, and does not decrease the milk; it has also the great advantage of encouraging early maturity, the Norman breed not getting into anything like good form under two years, and requires six months before it is properly fit for the butcher. The size which is attained by these oxen at full age is enormous. The fat oxen used in the animal procession in Paris were mostly chosen from this breed, and sometimes exceeded 550 stone, of 8 lbs., close on 40 cwt. The heaviest beast in the London Cattle Show weighed 25½ cwt. The meat is also considered superior to that of the Shorthorn, which is probably true enough. Meat forced by artificial food given to animals who never leave the stall can hardly be as good as that from animals fed upon rich grass and not forced; and the Norman cattle are always out of doors."

Dairy Value.—A few words from the same author in reference to butter. The contest is between cows of the same breed but in different locations.

"At the show held at Paris yearly the contest for the "blue ribbon" of the butter exhibition always rests between that from Isigny, in Calvados, and that from Gourney, in Seine Inferieure, and as the show is always held during the winter, Isigny is always victorious, the fine pastures in Le Bessin enabling the farmers to keep up the flavor. The Isigny men assert that if the contest were held in the height of summer the result would be the same; but at any rate the contest would be more close, as the grass at Gourney, which fails in winter, comes nearer to an equality with that of its rival in summer. The open market confirms the opinion of the judges, for, whereas throughout the winter Isigny butter makes more than 3s per lb. wholesale by auction at Paris, that from Gournay makes only 2s."

In the United States.—I can verify the excellence of the milk, and of the veal, and of the beef of the Normandy breed, both in France and in Massachusetts and New York, by personal experience. The calves when dropped from Normandy cows often weigh from 100 to 108 lbs. I have weighed a three-months-old calf, bringing down the balance at 283 lbs.

New York City. A. S. Heath.

THE IRRIGATOR.

Irrigation and Cultivation.

By W. M. McFadden of Placentia at the Anaheim Farmers' Institute.

To irrigate you must have water, and water when needed, to obtain best results. To irrigate properly you must put the water on the land in a proper manner; and to have it do the most good the land must be cultivated at the right time and in a thorough manner.

To put water on land in a proper manner is something we can all learn about. Since the plow has been laid to one side, and the harrow, disc and cultivator substituted, we find at a depth in all orchards of from 4 to 6 inches a thick crust of from 4 to 6 inches formed each time irrigation is done. The water is run over this crust often not wetting through it, but only dampening the crust through. The roots of the trees being below the crust, and nearly always in dry soil, they draw toward the surface under this crust and soon absorb all the moisture there and soon show signs of drouth. Often the leaves are still wilted when the surface is too wet to cultivate. The question is how to get the water through so it will penetrate. The roots go deep into the soil. Draw the roots down instead of up; keep the trees in good, growing, healthy condition. I would recommend that every orchard be thoroughly plowed both ways during the winter months, and about April or May, when water is plentiful, get a plow with a narrow share, something no wider than a cultivator tooth. On a strong plow put four or six horses and set it down about 2 feet in the middle of each row; then turn in a small stream and let it run for a week or so, when it will fill the ground full of water. The moisture coming up by capillary attraction will prevent this crust from forming.

I would recommend the furrow system of irrigation, as I believe you can get more water on the land than by any other system at less expense and labor, and it leaves the land in better condition to cultivate.

Cultivation.—A few words as to the cultivation. I notice quite a good many people, especially on sandy land, cultivating within a day or two after irrigation. In my opinion nothing can be more damaging to the soil. It kills all the fertility in it. The trees have a sickly or yellow appearance, the land soon needing irrigation again. The cultivator often says, "The land don't take any water," or, "It don't seem to do any good to irrigate this year; the ground so soon dries out." My friends, take my advice for once. Don't be in a hurry to get on your land after irrigation, no matter what kind of land you have. If you have ridges, plow them out in about a week after irrigation, not before. Then harrow them down in a day or two later. Harrow the land thoroughly; get on the harrow and ride; keep your harrow teeth sharp. Within ten days or two weeks get on the land with a cultivator; set it down deep and cultivate both ways, or cross-cultivate unless you plow. If you plow, which I would recommend more than is done, I would harrow close up after the plow, not leaving it go over half a day. After cultivation I would again harrow, when your ground will retain all the fertility it gets from the water and the moisture a long time, and, being then well watered and well cultivated, nothing can prevent the trees from making a healthy growth and yielding an abundant crop of good fruit.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

CANNING BUSINESS. — Haywards *Journal*, Sept. 23: Hunt Bros. Co. will finish the cannery season in about four weeks. Up to the present time they have put up 102,000 cases, but by the time the season closes their full pack will amount to 120,000 cases. They have about 3000 cases of peaches and pears to put up and will commence on tomatoes this week, and expect to put up between 18,000 and 20,000 cases. The pack put up is divided as follows: Cherries, 5000 cases; apricots, 30,000; pears, 30,000; peaches, 35,000; plums, 2000. They have machinery to can tomatoes. The extras are put up by hand, but the standards and seconds are utilized by the machines. There are two in operation; one is a can filling machine, by which three boys can put up 20,000 cans in ten hours. The other is called the "cyclone separator," where the skin and seeds are separated from the pulp and juice. The juice passes through three sets of wire screen, and comes out clean and pure, ready to be put into cans and boiled with the fruit.

PROSPECTIVE SUGAR PLANT. — Pleasanton, Sept. 24: Rumors for an extensive deal in sugar beet lands in the vicinity of Pleasanton have been current here for some time, and the deal is now believed to have been consummated. It has transpired that a large beet sugar factory is to be erected at Santa Rita Junction near Pleasanton, and that land is to be leased to supply the beets. The Rancho del Valle, J. Sutherland, the lands of the Hewlett estate and of the Chabot estate are mentioned among the thousands of acres included in the lease, which will probably be recorded in the near future. As soon as the preliminaries are completed work on the plant is to be commenced. E. R. Lilienthal of San Francisco, who owns the most extensive hop yards in this vicinity, is reputed to be at the head of the new enterprise, which will add an important industry to this section.

Colusa.

HEAVY GRAIN. — Williams *Farmer*, Sept. 3: Some fine grain has been hauled to the warehouses at this place the past season, but the best we have had our attention called to was that hauled from Spring valley by J. B. Welch. He has hauled grain to Williams that weighed as high as 153 pounds to the sack, but the biggest average was made in a load of 144 bags which weighed 21,530 pounds, or 149⅓ pounds to the sack.

Fresno.

FIRST CARLOAD OF RAISINS.—Fresno, Sept. 18: The first carload of this year's crop of raisins was shipped this afternoon to W. H. B. Totten & Co. of New York. The car contained 556 boxes.

GRAPE PRICES FIXED.—Fresno, Sept. 23: At a mass meeting of grape growers to-day it was unanimously decided to stand by the prices already fixed by the California Raisin Growers' Association for second crop Muscat grapes. The prices are $10 a ton for 24% sugar, $9.50 for 23%, $9 for 22%, and so on. The wine men refuse to pay these prices, which they say are too high.

RAISIN DRYING.—Sanger *Herald*, Sept. 23: Grape picking and drying is in full swing at present, the yield being much better than was generally anticipated. The weather during the past few weeks has been favorable for raisin drying, and vineyard work is progressing satisfactorily. In fact, the cool weather which prevailed during the months of July and August has proved beneficial to the vines and our raisins will be first-class in every respect. Quite a number of vineyards have already been picked and the raisins are in the sweat-box, but we have heard of no sales as yet. The wineries are buying up Muscats at $10 per ton and Malagas at $12.

HOW TO DRY FIGS.—Let the figs get ripe and drop off of the trees. They should be picked up from the ground every day or every other day, and put on trays; then put in the sulphur box and sulphured for about half an hour. Then put them out in the sun and let them dry thoroughly. After they are dry, wash them in ocean water, or salt water of about the same strength, and leave out in the sun until they are dry enough to prevent spoiling. It is not advisable to get them too dry. About a week after the figs begin to drop, the trees should be shaken so all the ripe ones will fall, and be picked up with the others. By curing them this way, growers will find that it will be very cheap work to cure them, and will also find they get about one pound of dried figs out of three pounds of green, while in peaches and other deciduous fruits it will take from five to six pounds of fresh to make a pound of dried. If growers will experiment and figure up their cost carefully, they will see it is a great deal more advantageous and profitable to raise figs than other fruit.—J. M. Seropian, Fresno.

Humboldt.

DAIRY PRICES.—Arcata *Union*, Sept. 23: Butter continues to rise in price and the dairymen continue to smile. On the 15th the creameries paid off as follows: Harpst & Spring, 26 cents a pound for butter fat; Arcata Creamery Co., 26¼ cents; Silva, 25½ cents; Lovern, 26¼ cents; Minor, 25 cents. The feed is good and cows are giving plenty of milk.

HEAVY YIELDS.—Arcata *Union*, Sept. 23: The grain separators have recently finished work at Bay district, and some of the biggest yields known in many years were turned out there this season. Frank Deuel threshed four acres of barley which went 112 bushels to the acre. The whole eight acres of barley averaged 100 bushels to the acre, and eight acres of oats threshed 110 bushels to the acre. John Seely threshed a piece of barley which went 100 bushels to the acre. The yield of peas was average.

Kern.

CANAL COMPANY INCORPORATED.—Bakersfield *Echo*: The Alejandro Canal Co., with principal office at San Francisco, has filed articles of incorporation. Its directors are: Henry Miller, Thomas B. Bishop, J. Leroy Nickel, Chas. Z. Merritt and David Brown, all of San Francisco. Its capital stock is $100,000.

Los Angeles.

FARMERS' INSURANCE COMPANY. — Pomona *Progress*, Sept. 21: The Los Angeles Fire Insurance Association has incorporated. This is the "farmers' insurance company," which has been agitated in this section for a long time, especially at meetings of the Pomona Farmers' Club. The association is organized under an act of the Legislature entitled "An act to provide for the organization and management of county fire insurance companies." The principal place of business is Los Angeles. Directors: W. T. Keiser, A. T. Currier, S. N. Jennings, Henry Claussen, L. C. Anderson, C. W. Jenks, G. F. Cromer, F. M. Chapman, W. A. Slead, M. B. Curtis and J. E. McComas.

ENLARGING THEIR PACKING HOUSE. — *Progress*, Sept. 21: The board of directors of the Pomona Fruit Growers' Exchange held a meeting and re-elected Manager F. K. Adams and foreman Henry L. Klaproth to direct affairs at the packing house. To accommodate the growing business, it has been decided to build a large addition to the house. On the south the building will be increased 20x40 feet, and on the west the addition is to be 20x40 feet in dimensions.

Merced.

ANTICIPATE A WET WINTER. — Los Banos *Enterprise*: The farmers on the West Side will commence plowing next month for the next season's crop. From the present indications more grain will be put in than ever before, as the farmers believe that we are going to have a wet winter, and after farming so many dry ones they feel that they cannot afford to be without a crop when a wet season comes.

Napa.

SWEET GRAPES.—*Calistogan*, Sept. 22: Our grape crop resembles our prune crop this year in so much that what it lacks in quantity is made up in quality. The grapes are all said to be running from 21% to 28% sugar and are large and healthy.

GRAIN STATISTICS.—Napa *Register*, Sept. 22: A correspondent from Monticello sends the following figures of the grain threshed in Berryessa valley this year: Wheat, 47,355 sacks; barley, 12,506; oats, 5272. The wheat will average about 140, barley 105 and oats 100 pounds to the sack. Reduced to centals these are the figures: Wheat, 66,297; barley, 13,132; oats, 5272. This year's grain crop has been exceeded but twice in the past fourteen years, and the yields of those years were: 1886—Wheat, in centals, 72,602; barley, 13,226; oats, 5272. 1891—Wheat, 76,943; barley, 11,202; oats, 5222. The yield of each ranch is given below in sacks:

Name,	*Wheat.*	*Barley.*	*Oats.*
Clark Bros	16,605	4,404	380
T. A. Wassum	7,295	1,919	936
T. S. Scribner	3,500	....	1,400
Caleb Gosling	3,300	575	850
G. S. McKenzie	2,750	125	509
Johnston Bros	2,236	....	605
J Harris	1,748	188	....
Anderson	1,184	150	....
Sim Buford	1,486	....	....
Smittle & Swift	1,160	530	....
W. J. Cannedy	1,145	....	....
Hinck & Sons	693	2,145	....
Sid Clark	1,662	641	....
G. P. Swift	....	467	181
Joe LaFleche	....	455	....
James Moore	....	400	....
H. S Coleman	176	217	....
N. Doane	....	....	110
F. Doane	190	....	....
N. View	225	....	....
C. Wassum	....	....	301

Nevada.

SUCCESSFUL CREAMERY.—Nevada City *Transcript*: The Penn Valley creamery, which has been in operation since last spring, is now more than paying expenses. For some time it could obtain but 1000 pounds of milk a day, but the farmers of that section are so well pleased with the results that they are rapidly adding to their herds of cows, and now the daily purchase of milk amounts to 2100 pounds. It is expected that during the coming winter these figures will be increased at least 50%. Charles Schwartz is the manager. He says the farmers of his section who have given co-operative dairying a trial are more than satisfied with the result, as they find it far more profitable than raising hay for the market.

Riverside.

GOOD PRICES FOR FRUIT. — Corona *Courier*: This has been an off year in California as regards the quantity of oranges and lemons marketed, but the prices have been exceedingly satisfactory. The Queen Colony Fruit Exchange has paid for 152 cars, or 51,302 boxes of oranges, all varieties and grades, at the rate of .0214 cents per pound for the 3,543,970 pounds, or a total of $76,025.62. For lemons, 108 cars, or 31,111 boxes, all varieties and grades, at the rate of .0142 cents per pound for the 2,532,326 pounds, or a total of $35,849.54—a total of $111,875.16. The Christmas Navels brought net to the growers $1.55 per box; the January Navels $1.20 per box, and for all Navels shipped after Feb. 1st the growers received $1.70 per packed box. This Exchange has made a better showing than in any other year since organization, the Navels paying net to the growers for the whole season $1.22 per box for all grades, the highest average price the growers have ever received since the colony has produced oranges. The growers have received over $3000 more money for the 152 cars shipped in '99 than for the 250 cars shipped last year. The growers received this year for the 108 cars of lemons about $2500 less than they received last season for 175 cars; or there was $500 more paid to the growers this season for the 260 cars of oranges and lemons than for the 425 cars last year.

San Bernardino.

WALNUT HARVEST. — Redlands *Citrograph*, Sept. 23: The walnut harvest commences this week. The crop is reported a full average, and prices are expected to be remunerative.

IRRIGATION ENTERPRISE.—*Citrograph*, Sept. 23: The new well and pumping plant on the property recently purchased by W. T. Leedom has begun operations, supplying 15 inches from the start. Mr. Leedom will increase the stream pumped, and is confident he has 20 inches or more. This well, being almost at the upper line of the Barton ranch, will furnish abundant water for the small part of the ranch not already supplied. This makes the thirteenth well and pumping plant on the Barton ranch—ten are in successful operation, furnishing from 10 to 43 inches each, continuously pumped. As not one of them has ever been pumped to its full capacity, it is reasonable to suppose that many times more water could be procured if needed.

SUGAR MAKING RECORDS.—Chino *Champion*, Sept. 22: This has been a week of big runs and broken records at the sugar factory. A rivalry between the day and night shifts has made each try to exceed the other in tonnage worked. The Tuesday day shift sliced 395 tons; the night shift followed with 419 tons; then the day shift on Wednesday sent through 436 tons, which they thought could not be beaten, but the night shift was not to be vanquished, and by the end of twelve hours had scored 459 tons, the largest record, considering the quality of the beets, that the factory has ever made. It must be remembered that this record was made with beets averaging 17.6% sugar, which would equal about 1000 tons per day of 14% or 15% beets. The percentage of sugar in the beets continues to run high, Sunday's average being 17.1%; Monday, 16 8%; Tuesday, 19.3%; and Wednesday, 17.2%. The average sugar output from the factory is about 2000 bags per day, or 200,000 pounds. Everything about the factory is working smoothly. The machinery is in first-class condition.

San Joaquin.

HEAVY GRAIN CROP.—Stockton, Sept. 23: The country roads are lined with heavy wagon trains hauling grain to Stockton. From appearances on the water front, the alarm about the discrimination in favor of Port Costa was needless. It is reported that some of the local warehouses have already closed down and cannot accept another sack of grain. Grain is even being stored in barns and improvised sheds. The crop is what may be termed tremendous. A report from Roberts Island says that all of the grain in the upper division is either threshed or in stack, having been cut with headers. On the middle division, however, there is considerable grain yet standing, and all the harvesting is being done there with steam harvesters. There are 7000 acres in the upper division and 5500 acres were in grain this year. The yield will be over 120,000 sacks of grain, of which 70,000 sacks are already threshed. Of this 6000 bags were wheat and the balance barley. The wheat averages sixteen bags to the acre and the barley forty-five. The entire island crop will be in sacks by the middle of next month.

San Luis Obispo.

LARGE GRAIN CROP.—*Tribune*, Sept. 22 The greatest crop in the history of the State was grown this season in this county and the adjoining territory. Nothing like it has ever been known before. Warehouses are already filled to overflowing. The Southern Pacific Company and the Pacific Coast Railway are erecting additional buildings to accommodate the tremendous demands being made upon them both for storage purposes. There is not an acre of land in this section that was sown in grain that has not returned over twenty sacks, and the number of acres where only twenty sacks have been secured can be counted on one hand. The average yield per acre will run about forty sacks. In some places it was as high as seventy-five and one-third sacks to the acre. There are mountains of grain at the warehouses of the Pacific Coast Railway in this city. Over 40,000 sacks of grain, mostly barley, are already stored there, and over 60,000 more sacks are coming in at the rate of 3000 sacks per day. The large main storage house is nearly filled, and almost every available foot of space on the adjoining platforms is occupied by sacks of grain.

Santa Clara.

DISTRICT FAIR POSTPONED.—San Jose *Mercury*, Sept. 22: The directors of the Santa Clara and San Mateo Agricultural Association, No. 5, met for the purpose of taking definite action in the matter of holding a fair. After some discussion a motion made that the fair be postponed until Golden Jubilee Week in December was carried.

PRUNE DRYING.—*Mercury*, Sept. 22: A few more days of this fine warm weather and the prune drying will be over for the season, at Campbell. The Fruit Grower's Union has cured 2000 tons of French prunes, and the drying field is still well filled, and a better quality of fruit was never seen in their warehouse. They have commenced packing. Five cars were shipped during the week.

Solano.

HEAVY ALFALFA CROP.—Dixon *Tribune*, Sept. 22: On the Sacramento river, marvelous yields of cereal and other crops are the rule this year. There was reported recently a yield of 150 tons of alfalfa hay off of twenty acres of land. This land yields six crops, and the hay is worth $5.50 and $6 per ton.

Sonoma.

GRAPE CROP.—Sebastopol *Times*, Sept. 20: President Rossi, of the Italian-Swiss Colony, does not accord with the short figurers on the grape crop. He believes that the grape crop is larger than last year. The crop at Asti is considerably in excess of that of last year, and many other vineyards which Mr. Rossi has inspected will yield a greater tonnage than in 1898. The sugar percentage is far of the usual yield. Grapes yielding 25% and 26% of sugar are abundant this year, while in years past it has been hard to secure the standard of 22%.

HOP HARVEST.—Santa Rosa *Press-Democrat*, Sept. 23: Two weeks ago picking commenced in the Legget hop yard, situated in the Willow Grove district, about three miles west from Santa Rosa. There were about 100 men, women and children employed. Wednesday or Thursday of this week will complete the work. The crop for this season will be about 140,000 pounds, which is 20,000 pounds more than last season's output All the yards in the district will yield an increase over last year. The quality of the hops is generally good. Willow Grove district comprises eleven hop yards, the total acreage of which is 485, and the amount of hops gathered is generally placed at 2,500,000 pounds green.

OREGON.

HOP NOTES —Portland *Oregonian*, Sept. 20: John Buchanan of Cornelius and John Brisbine of Forest Grove finished yesterday picking their hops. Both had an excellent quality and a good yield The former from a 24-acre tract gathered 15,000 pounds, and the latter 5983 pounds from twelve acres. Hops at Woodburn are now harvested and the following comparisons as to the yield of 1898 and 1899 will be of interest:

		—BOXES—	
	Acres.	*1898.*	*1899.*
W. R. Townsend	28	1651	2155
Ed Seeley	20	1190	1777
Charles Kutschi	17	1240	1760
Charles McCormick	80	4000	6500

It is safe to state that in territory adjacent to this city the yield is from 15% to 25% in excess of 1898. As to quality, this season's crop is inferior to that of last year, the difference being due to the late heavy rains in August. Probably 25% of the product will grade as choice, the remainder being prime. Hop pickers have had a small Klondike this season. For some reason very high records have been secured. The champion of this section is Mrs. Mabel Settlemier, niece of Governor Geer, who picked eleven and one-half boxes from 5 A. M. until 4 P. M., and who repeatedly picked six and one-half boxes in the forenoon. Next in line is Mrs. I. W. Geer of Oakland, Cal., who picked eleven boxes in a single day. B. C. Binegar has made the highest general average of ten boxes per day. No price as yet is offered for the present crop.

WASHINGTON.

WHEAT CROP.—Walla Walla, Sept. 17: W. H. Reed of Tacoma, State grain commissioner, has been making this his headquarters while inspecting the grain fields. Being asked his conclusions, Mr. Reed said: "The yield of the Walla Walla valley was cut down by the hot winds in June from one that would have equaled the bumper crop of '98 to a crop which will be fully up to the average quantity of former years. The area cut this year is not as great as last year, because a greater amount has been summer-fallowed. I estimate that about one-third of the crop will go No. 1 on a weight test of fifty-eight pounds per bushel. The smallnes of the amount of No. 1 was caused partly by the June hot winds shriveling some of the grain, but mainly by the bleaching of the grain by the unusual rains in August and September which fell on the standing grain. Practically no grain in stack was damaged by the rains except near Berryman, where there was a cloudburst, and in the higher foothills, especially near Dixie, where some of the standing grain was lodged by the high wind.

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THE HOME CIRCLE.

September.

We are drinking the wine of the ages
From cups that are brimming over
With the sweet of a honey unbought with money,
Distilled from the heart of the clover.

The flowers afringe on the wayside
Are in raiment of purple and gold;
To the rough-hewn edge of the old stone ledge
The clinging brier vines hold.

We are breaking life's fine elixir
In the waft of the perfumed breeze,
The sudden showers, the sunlit hours,
The rustle of leaves on the trees.

The fathomless view of the heaven,
The beauty and bloom of the day,
Are making us young—they are waking the tongue
Of the years that have passed away.

'Tis the radiant rare September,
With the clusters ripe on the vine,
With scents that mingle in spicy tingle
On the hill slope's glimmering line.

And Summer's a step behind us,
And Autumn's a thought before,
And each fleet day that we meet on the way
Is an angel at the door.

—Harper's Bazar.

Compensation.

The truest words we ever speak
Are words of cheer;
Life has its shade, its valleys deep;
But round our feet the shadows creep,
To prove the sunlight near.
Between the hills those valleys sleep—
The sun-crowned hills;
And down their sides will those who seek
With hopeful spirit, brave though meek,
Find gently flowing rills.

For every cloud a silvery light;
God wills it so.
For every vale a shining height,
A glorious morn for every night,
And birth for labor's throe.
For snow's white wing a verdant field,
A gain for loss;
For buried seed a harvest yield,
For pain a strength, a joy revealed,
A crown for every cross.

A Chapter of Philosophy.

I didn't catch her name when Cousin Edith introduced us at the garden party, but she was unquestionably interesting. We ran through art and music and drama in half an hour. Then we came to philosophy.

"There is such a difference," said she, "between practice and theory."

I conceded the point. She was so charming, in fact, that I wished it had been a larger point to concede. "But," I ventured to remark, "that doesn't make the theory wrong."

She leaned her cheek thoughtfully upon one gloved finger; possibly to display the smallness of her hand; possibly because the poise suited her; probably for both reasons.

"When you say that the regeneration of the universe can only be accomplished by white men marrying black women—"

"And black men white women."

"No, thank you!" She shrugged her shoulders. "Well, as a matter of fact, do you not care anything about the regeneration of the universe?"

"I don't believe I do," I laughed.

"Nor contemplate marrying a negress yourself?"

"Unfortunately, my personal taste lies so strongly in the direction of the blonde!" Edith had remembered this, with her usual discretion."

"If I were black, you would say you preferred ebony to ivory."

I raised my hands in protest. "I assure you," I averred solemnly, "I prefer you as you are."

"But you haven't seen me any—other—how."

"I am clear that improvement is impossible."

She laughed a delightfully saucy laugh.

"What a stock in trade of compliments you keep! I can understand why your cousin described you as a tonic for a diffident young person—like me."

"There is not," I declared, "another like you, as far as my experience goes."

"You are putting me in a glow of satisfaction with myself! Please go on. There ought to be one or two nice points remaining in me."

I regarded her with calm scrutiny.

"An appearance of impudence becomes you," I said, "but—"

"But?"

"So do all appearances."

"Pray don't think that you have exhausted my appearances!" She sank back in another attitude. "Why, you have barely known me an hour!"

"An hour," I said, feelingly, "of exquisite quality!"

"An hour," she suggested, "which should rightfully have been devoted to a black woman." She looked as if she would like to add something, but refrained.

"You were going to say—"

"Poor black woman!" Her eyes sparkled wickedly. "I don't mean it," she hastened to add.

"According to my theory," I explained, "you should have been delighting the eyes and ears of some dusky gentleman, and—er—"

"Poor black man!" I never saw such a girl to laugh.

"On the contrary, if you were likely to adopt my theory, I should paint myself black."

"But you wouldn't be so black as you were painted."

"The theory," I observed, "doesn't say black—all—through."

"The theory is nonsense; all theories are."

"Surely, out of so many theories, one or two must be right—if only by accident."

She leaned her head back against the chair and considered.

"Don't you think," she asked with sudden gravity, "the folly is in such unstable beings as we having theories at all? We lay down all sorts of grand principles, and when the time for action comes—why, of course, we break them!"

She sighed; doubtless to the memory of some departed theory.

"Still," I said, "there is no harm in laying them down—for others."

She smiled again.

"For Jones and Brown and Smith, a black woman apiece," she cried, clapping her hands; for the author of the theory—"

"Blonde," I interrupted; "blue eyes and flaxen hair; preferably attired in pale blue with pink roses—"

"Stop, stop! I'll assume that you've paid me all possible compliments. Let us get down to the bedrock of serious conversation."

"Umph! One so rarely gets there that I doubt if I have any serious conversation. You are not a missionary in disguise, are you?"

She didn't answer for a minute. It was curious to watch her face change from merriment, through thought, to seriousness. First, the laughter died gradually in her eyes; then the little curls and turns went out of her lips; then the dimples in the cheeks smoothed themselves out like ripples widening into nothingness on the sea; then she lifted up her head, a little on one side, and looked at me with solemn child eyes.

"Sometimes," she said, sadly, "I wish I were. Sometimes I wish a missionary would come to me. I get tired of making fun of things, and think that perhaps they are serious after all.

I twirled my mustache, and felt my own smile fading out. "They are serious enough," I said, "if you look at them in that way. It isn't a good way to look at things—things in general—I think."

"But one looks sometimes," she said, absently, "at things in particular, and feels very, very serious."

"Then," I said, leaning forward, "one doesn't talk about them much. There is rarely any one to whom one cares to talk about them."

"I don't think," she went on, with a little catch in her voice, "there is ever any single person to whom any one would like to tell them all the 'serious particulars,' I mean."

"I don't think there is. So usually one doesn't tell them."

"Or unburdens one's self in installments, as opportunity offers." She sighed again.

"Exactly. That is why there are such odd confidences now and then. The critics lashed a scene in my last book because he told her one of his secrets in the first half hour of their acquaintance. It was natural enough, really."

"He was bound to tell some one," she assented, and she was the fitting confidante for that particular secret."

"Quite so. She was the response of that one item of his nature."

"The worst of it," said my fair acquaintance, "is when one's nature is many sided; beause—well, you know what I mean."

"Society expects us to find a single kindred spirit which is to respond to all the calls, and it cannot."

"No, it cannot," she spoke with sudden energy; "though it may answer so well—so very well—to some." Her hands trembled in her lap.

"Wherefore," said I, speaking half to myself, "we find it a sound theory not to expect too much from anyone, to be thankful for what is given and compassionate for what is missing."

"You look at the matter more calmly than I," she cried passionately, with her lips quivering.

"Perhaps," I told her, "I have looked at it oftener, or longer ago."

She studied the floor for a time, and I studied her. She certainly was very pretty.

"What percentage of one, do you think, Mr. Nugent," she asked at length, "ought to meet with a response in a—a friend?"

"Well, I'm hardly prepared for examination in the mathematics of the subject. It depends on the 'one' and the 'friend,' and the kind of demand."

"Take yourself, for example," she proposed.

"All right," said I, shrugging my shoulders; "if it pleases you, I'll dissect myself. My æsthetic demands upon 'the friend' I have already formulated; they are approximately satisfied by several people whom I know—for example, you."

"Your æsthetic requirements are evidently very reasonable; but they are a minor matter after all."

"Theoretically they may be; practically they are all important. Then my intellectual demands I hardly know,—some people satisfy 80% of them. You would answer to quite 95%, I imagine."

She laughed again. As I have stated, she had a charming laugh.

"Most people's intellectual demands are small," she said. "The emotional demands are the difficulty."

"Ah, yes! A general answer is impossible there. You can never tell without trial; and when you try the demand changes; and when you fail you pay a price. It is always a risk."

"Is there no way of forecasting?" she inquired, eagerly. "Cannot even an author with a reputation for analysis of character"—I wish I had—"make an estimate?"

"No—o. I merely wanted an example."

"Well," I said, smiling, "I'll take my unworthy self again, and my emotional needs. You would, I judge, answer to 99% of them!"

"But, you see," she objected, "I am already appropriated!"

"For the matter of that," said I, "so am I!"

Then we gave way to laughter—which is the practical philosophy!—J. A. Flynn.

The Word "Wife."

What do you think the beautiful word "wife" comes from? It is the great word in which the English and Latin languages conquer the French and Greek. I hope the French will some day get a word for it instead of their femme. But what do you think it comes from? The great value of the Saxon words is that they mean something. "Wife" means weaver. You must be either house wives or house moths; remember that. In the deep sense you must either weave men's fortunes and embroider them, or feed upon them and bring them to decay. Wherever a true wife comes, home is always around her. The stars may be overhead, the glow worm in the night's cold grass may be the fire at her feet but home is where she is, and for a noble woman it stretches far around her better than houses ceiled with cedar or painted with vermillion, shedding its quiet light for those who are homeless. This, I believe, is the woman's true place and power.—Ruskin.

A Word on "The New Woman."

The impression seems to prevail almost universally that the "new woman," so called, is innately discordant to man's ideals; that in fact she forces herself upon him. People seem to regard her—as indeed she often short-sightedly regards herself—as rather of an imposition, as something antagonistic to man's requirements. But we seem not yet to have realized that just as there is a new woman evolving herself out of the old-fashioned woman, so is a new man taking the place of the old-fashioned man. Are we not doing man an injustice to suppose that he remains merely the same in his ideals and requirements, while woman progresses alone? Just as her former state of domestic bondage has become insufficient to our women, so it has become insufficient to our men. If woman has changed her relative position to us by increasing her mental ability, she is merely answering to man's requirements as of old,—only men now want more.

The study of the rise of woman from the slave to the companion is not only a study of her deepening intelligence, but also of man's increasing demands. We expect more of our woman than ever before, and they feel it, and are trying to satisfy us,—their old ambition.

No woman can ever be really masculine in nature, no matter how much she may try to imitate man. Her masculinity will be, as an effeminate man's feminity, merely a manner and an appearance. The imitations of the one sex by the other will never be successful, because the requirements of each are against it.

There is much profitless talk about the destiny of the new woman, Destinies are beyond us; they are progressions, and we cannot see fate's ultimate ends. But unless a man be pessimist enough to prefer the ancient, decry the modern, and deny the excellence of progress, he must surely be pleased that we progress. But few of us realize our opinions; we merely believe them; and many intense optimists inconsistently shrink from the new as from something more dangerous than promising. Surely the men who progress are the civilizers; only savagery advocates barbarism.

The modern woman is reasonable. Her sweetness lies in her sympathetic wisdom, and her charm in her fresh, free, high womanhood. Young-souled and clear-minded, she will be cheerful in herself because she will be satisfied. Neither unnoticed and subservient, nor aloofly emancipated, but developed to her high possibilities, the coming woman will be more lovable, more admirable, and more companionable than

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she has ever yet been. Raised to her highest capacity, she will be more worthy of man, and man will be more worthy of her.—R. V. Risley, in Self Culture.

Play as a Factor in Education.

An article on the above subject appears in the August *Review of Reviews* from the pen of Prof. A. E. Kirkpatrick, of the Massachusetts State Normal School, which is worthy of the attention of all who have to do with the training of the young. It sets out by combatting the Spencerian idea that play is the result of surplus energy. The fact that animals and children will play till exhausted, and even then can be induced to play when too weak or weary to do anything else, is sufficient to disprove this. It is, therefore, to be regarded as a fundamental instinct, and should not be left out of account in the education of the young human animal. In play the child engages in life's activities instead of merely observing them. Play does as much as either study or work in bringing out their latent capabilities and preparing them for life's activities.

The value of play for children is now recognized in the kindergarten system and duly appreciated by educators. It has been asserted by a prominent Frenchman that the power and progress of the Anglo-Saxon race are due as much to their plays as to any one factor.

Play is not the doing of easy things as some have supposed. The amount of energy put into hunting, fishing, skating, bicycling, ball-playing, solving puzzles, and playing checkers, chess, etc., proves that play is not always easy. The charm of many plays depends upon their difficulty. It is true that play is one of the best means of rest and recreation, not however because it is easy, but because one becomes interested in forms of activity different from those called forth in ordinary daily employment. Change is relieving. Recent careful studies of the biographies of noted men have shown that they were leaders in play in boyhood and many of them kept the play instinct all their lives. Men who have great capacity for play usually have great capacity for work. The characteristic of play is not ease, but the feeling of power in doing things more or less difficult. The instant one feels that a thing must be done, it is no longer play but work. The professional ball-player is not really a player but a worker.

Provision of playgrounds and parks is strongly urged. Free baths are also pleaded for on sanitary grounds as well as a means of gratifying the play instinct. In several cities, parks as well as schoolyards, and one room in the school for use on rainy days, have been opened during the past summer with the best results.

Diversion as a means of keeping the young out of temptation is well treated in this article. How much better is the prevention than the punishment of crime! At the State Normal School, Fitchburg, Mass., the teachers were asked at the close of the year to state what they had learned from their experience with the children. The following quotations are typical of the answers given:

"The play period has brought to my mind many characteristics of children which I had unconsciously forgotten." "The children treated me as a companion, and I seemed to forget for a while that I was not one of them." "I could see in it the only true way to sympathize with them and enter into their feeling." "I could see much of their home training from incidental confidences from them which I might never have learned in the schoolroom."

One thus sums up all the truth she has learned:

"1. Children need direction in their games.

2. They should be allowed to choose their own games as far as is practicable. We should see that the child has a store of good games from which to choose.

3. Children like active games. They do not easily tire of the same game.

4. There is generally a leader.

5. Children like to play on the grass.

6. They are full of nature.

7. Some who are the most restless and apparently inattentive in school are often the most interested in nature.

8. They care more for the flowers than for the birds.

9. Children learn a great deal by imitation.

10. It takes very little to please a child.

11. Children like sympathy.

12. When a child hurts himself, one of the best ways in which to help him is to draw his attention from the pain.

13. Children like to have their rights recognized.

14. Some children need their individuality cultivated."

Children can be easily managed through public sentiment, if only the spirit of public sentiment is encouraged.

Value of the Sun's Rays.

Prof. Sinclair says that many know by experience that the relief afforded by the sun's rays to wearing pain, neuralgic and inflammatory, is more effective and lasting than that of any application whatever. Those who have face ache should prove it for themselves, sitting in a sunny window, where the warmth falls full on the cheek. For nervous debility and insomnia, the treatment of all others is rest in sunshine. There is no tonic like it, provided the good effects are not neutralized by ill feeding. To restore a withered arm, a palsied rheumatic limb or to bring a case of nervous prostration up speedily, a most efficient part of the treatment would be to expose the limb or the person as many hours to direct sunlight as the day would afford. With weak lungs, let the sun fall full on the chest for hours. For the chilliness which causes blue hands and bad color resort to the sun—let it almost blister the skin, and the circulation will answer the attraction. It is a finer stimulus than wine, electricity or massage, and we are on the verge of great therapeutic discoveries concerning it.

True Courtesy in the Home.

The family usually take too much for granted. The thought that they all know how much we care for each other is a very misleading one, and what a world of heartache and bitterness would be saved by using a little of the common politeness in the home. The cheery "good morning" at the breakfast table—which would put each member of the family in good spirits for the remainder of the day—is used only for the chance visitor, and, instead, the heads of the family often select this time for their petty disputes and grievances. It is not always the words, but the tone in which they are uttered, that cheers. The same word can be uttered in different tones and express an entirely different meaning. It can both soothe and cheer or cut like a lash. Often there is too much frankness in telling each other of failings. If one is sensitive over a failing, life often becomes a burden when laughed and jeered at by members of his own family. He may be too proud to let it be known that he has been wounded, and only his Maker will ever know of the bitterness and heartache in the seclusion of his own rooms.

We have careful thoughts for the stranger,
And smiles for the sometimes guest;
But for our own, the bitter tone,
Though we love our own the best.

All substances the cunning chemist, Time,
Melts down into that liquor of my life—
Friends, foes, joys, fortunes, beauty and disgust, * * *
All he distills into sidereal wine
And brims my little cup, heedless, alas!
Of all he sheds, how little it will hold,
How much runs over on the desert sands.

To HAVE what we want is riches, but to be able to do without is power.—George McDonald.

DOMESTIC ECONOMY.

Fruit as an Article of Diet.

To a correspondent of the *Fruitman's Guide*, a leading physician of Bar Harbor said that few people appreciate the value of fruit, not only in its natural state, but in the various forms in which it is cooked.

"Oranges," he continued, "are regular items in the provisioning of households here. At the breakfast table they reign supreme. Delicious orange marmalade is easy and inexpensive to make, besides being healthy. Orange ices, cakes and puddings permeated with orange juice are also wholesome. The most healthful cordial is made from orange peeling and is of great value in certain forms of indigestion. Orange peel is eaten with relish in Paris, but in America with the climatic changes should only be indulged in to a moderate extent, as it produces indigestion. Lemons are household necessities, and, when judiciously used, are of great value, though the fancy for drinking the juice of several lemons upon rising in the morning was, unfortunately for the race, short-lived. Lemon juice is excellent for colds, cholera and fevers. Grapes without the seeds are nature's panacea for many of the ills of life. The Delawares and Concords are the domestic favorites, while the Tokays are decidedly popular and most wholesome and the most welcomed of the foreign supplies. From the above assortment grape juice is made and is voted a favorite beverage. This juice can be made so easily and is so conducive to health that it should be kept in the stock of summer delicacies in households. Grapes and bread and butter contain sufficient nutriment to satisfy an ordinarily hungry person. Bananas have a high standing for their intrinsic value as food. In their natural state, eaten raw, it is asserted that the banana will keep the system in good order for a longer period of time than any other fruit known, with the exception of oranges. Bananas used as a dessert, with a little sugar and cream, are healthful. It must be remembered, however, that this fruit is what is known as "hearty," and a large dish of it at the close of a full meal may cause some uneasiness, because it is just so much more food than the system requires. This fruit is cooked in various ways, pudding and fritters being most popular. Bananas sliced and sprinkled with sugar make an excellent and healthy desert well calculated to encourage rest.

"Apples are conducive to health. Persons suffering for want of sleep will find this fruit a valuable acquisition to create drowsiness. In Continental Europe tremendous quantities of apples are consumed and European physicians of prominence declare that to eat an apple before retiring means a peaceful night's slumber. Fig puddings make a luscious dessert. Fig jelly made with quince or apple juice is one of the best possible luncheon dishes for children.

"If every family would use prunes at least once a day the community could show a much cleaner bill of health. The California prunes now in the market are an improvement on even the best imported sorts. They are eaten from the hand by scores of persons, and, if they are carefully masticated, are healthful and nutritious. Stewed prunes are best when put on the back of the range, with just enough water to cover them, and left for some hours to simmer. The Santa Clara prunes require no sugar. The Oregon fruit is tart, and is improved by the addition of sugar. Prune pies and puddings are acceptable desserts, and various delicacies made from prunes, whipped cream and gelatine are described in cookery books decidedly healthful."

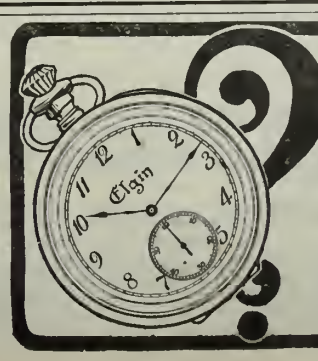
Plum Jelly.

The fruit should be gathered when only part ripe—about half colored. This point is very essential. Put plums in a large granite or porcelain kettle—the latter is the best—with barely enough water to cover them. Cook until tender, but not until they are in a pulpy mass. Having previously covered a large jar with a cloth, strain the fruit and let the juice drop through, but do not squeeze. When all has drained through, strain once or twice more through another cloth, until the juice is perfectly clear. To one measure of juice provide one measure of granulated sugar, but do not put together at once. A very important point in the making of all jelly is that only a small quantity should be cooked at one time. Into a medium-sized kettle put, say, four tumblers of juice; let it boil briskly fifteen or twenty minutes, then add the four tumblers of sugar, and in a very short time—usually from three to ten minutes, the jelly will be finished, light, clear and delicious. To test the jelly, dip a spoon into the boiling juice and sugar and hold it up; when the jelly clings to the spoon in thick drops, take it off quickly and put into jelly glasses. The plum pulp which is left can be put through a colander and used for plum butter. The following point is regarded as important by one contributor: "The earlier in the morning and the clearer the day the better will be your jelly. A cloudy day makes dark jelly, and, if not made early in the day, the juice requires boiling so much longer that the jelly is dark and sometimes it is almost impossible to get it to jelly." Another correspondent writes: "It is well to begin to test it after boiling fifteen minutes, taking a teaspoonful at a time onto a saucer and standing in a cool place for a moment; scrape it to one side with a spoon, and if it is done the surface will be partly solid; then roll the tumblers in boiling water quickly and fill them with the jelly. On the top of each, while it is still hot, drop a lump of clean paraffine which will melt and cover the top tightly, preventing all molding. If prepared in this way, it will not need to be tied with brandied paper or other special care taken.—Prof. Goff, University of Wisconsin.

STEWED LOBSTER.—Cut the lobster fine. Allow one-half cup milk to one pint lobster. Heat the milk, add the lobster, one tablespoonful butter, and a little pepper. Boil up once and serve plain or on crisped crackers. Cook lobster just long enough to heat it, as longer cooking renders it tough.

IT is always good to know, if only in passing, a charming human being; it refreshes our lives like flowers and woods and clear brooks.—George Eliot.

Hearts are galleries, wide and long,
Illumined with the soul's own light,
And many are cheerful and filled with song,
To many shadows and gloom belong,
And some are as dark as night.



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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 27, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	70⅜@71¾	73⅜@74¼
Thursday	73 @71½	74⅛@74⅞
Friday	71⅞@73	74¾@75¾
Saturday	72¾@72⅜	75⅛@74⅞
Monday	72⅛@73⅛	74⅛@75⅜
Tuesday	73⅝@73	75⅜@75⅛

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	March.
Wednesday	5s 11½d	6s 0⅜d
Thursday	5s 11⅝d	6s 1⅜d
Friday	6s 0¼d	6s 1⅜d
Saturday	6s 0⅜d	6s 2 d
Monday	6s 0⅜d	6s 1⅞d
Tuesday	6s 0⅜d	6s 2½d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 09½@1 09¼	1 15¾@1 15¼
Friday	1 09⅜@1 11	1 16¼@1 17
Saturday	1 10⅜@1 10½	1 16¼@1 16⅜
Monday	1 10⅝@1 10½	1 17 @1 16⅝
Tuesday	1 10¾@1 10	1 16⅜@1 16½
Wednesday	1 10½@1 11	1 17 @1 17¼

Wheat.

The wheat market is firmer and higher. The advance in price of spot wheat was not very heavy, about 25c per ton, but this was decidedly better than to have a decline of the same or greater magnitude. As the news was mainly of a bearish character, it was somewhat surprising that there was any advance to record. The causes assigned for the firmness were the slow deliveries by farmers and the filling of shorts. Some claimed that farmers east of the mountains were too busy with seeding and other farm work to pay attention to marketing wheat, but if prices had been satisfactory the farmers would doubtless have found time to deliver grain. Chicago advanced 2¼ per bushel, Liverpool options recorded an improvement of 3¼c per cental, while on the local Call Board prices moved upward during the week about 2½c per cental. The market at this writing (Wednesday noon) closes firm, with speculative values at the highest figures of the week.

A noteworthy feature of the wheat market the past week was the flurry and rather sharp upward movement in values caused by a comparatively trifling incident, viz: the failure of a Chicago firm which was heavily short, or in other words had sold or accepted orders for large quantities of wheat on paper without having any wheat to deliver. Most of this speculative business is done in a gambling way, neither buyer nor seller entertaining any idea that it will be necessary to tender or receive the amount of wheat specified in the contract or any portion of the amount. Ordinarily the papers simply change hands, and the differences which in the meantime have accrued in values are adjusted with checks or coin. The firm which suspended, while somewhat prominent in the speculative wheat pit of Chicago, was known to very few people on the outside, even in grain circles. Working on the idea of most of the ring speculators, that shorting wheat is nine times out of ten a sure money winner, this firm is reported to have plunged into the market on the short side to the utmost depths possible, so that very little movement upward was necessary to involve it in disaster. Instead of selling the market short, however, it is probable the firm simply booked orders to buy the amount of wheat involved, and did not purchase at the price specified, expecting the market to recede and then to pocket the difference. But some clients called for their contracts when the market was slightly higher instead of having receded, and as a result the firm collapsed, being in no position for such a contingency. Many of the brokers in the gambling market speculate on their clients' money, so that the client is almost certain to lose, for if the market does not go against the client and in favor of the broker, the broker bursts and the client in numerous cases goes broke. This is one of the many bad features of gambling in grain boards, and it behooves all who engage in this business to thoroughly know the firm or party they are operating through, and to be thoroughly satisfied with the squareness and financial responsibility of the agent selected. Another point in this connection to which particular attention is invited, is this: The wheat markets of two continents were affected by the failure of one speculative firm in Chicago, the Eastern markets jumping up about 2c per bushel, and there was an advance here of 1¼@1¾c per cental, or 25@35c per ton. This shows that wheat is at dangerously low levels for the speculator, and if a comparatively small affair like the one in question has such an effect upon the market, holders have reason to feel congratulated upon the possibilities in their favor when some more substantial and more general cause for an upward movement in values is experienced. The prospects at the moment are more favorable for wheat values hardening than declining, barring one single factor on this coast, and that is scarcity of ships for carrying wheat hence.

California Milling	$1 06¼@1 12½
Cal. No. 1 shipping, alongside	1 03¾@1 05
Oregon Valley	1 03¾@1 06¼
Walla Walla Blue Stem	1 06¼@1 10
Walla Walla Club	1 00 @1 07½
Off qualities wheat	97½@1 02½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.09½@1.11.

May, 1900, delivery, $1.15¼@1.17¼.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.10½@1.11; May, 1900, $1.17@1.17¼.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s3d@6s4d	6s1d@6s1½d
Freight rates	22½@25s	36¼@—s
Local market	$1.12½@1.15	$1.03¾@1.06¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

There has been no quotable improvement established in values for flour, although holders in some instances are not so anxious to effect sales as a few weeks ago, and pronounced concessions in favor of buyers were not so readily obtained as earlier in the month. Stocks continue fairly liberal and ahead of immediate requirements.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Demand is fair for shipment and for local account. Market is moderately firm for best qualities, but on low grades the tendency is against sellers, there being on latter sort very little competition among buyers. Local millers are running largely on off qualities, and are securing the same at $1.50@2 per ton less than current rates on strictly first-class feed. Much of the choice feed is being made to serve for brewing on export account. Brewing of select quality is not plentiful, and some purchases of the same are reported in the interior at relatively higher figures than are obtainable in this center. Shippers steadily endeavor to keep this market down to lower levels than are warranted, so as to be able to operate to advantage in the interior. The Produce Exchange has long been known to be prostituted by shippers to this base purpose. The Call Board showed a little more activity than preceding week, and prices for options were established on a slightly higher plane. Three clearances of barley were made for Europe within the week, the bark Ventura taking 2900 tons brewing for Antwerp, the ship Springburn carrying 960 tons Chevalier for London, valued at $20,200, and the bark Bretagne cleared for United Kingdom with 2676 tons brewing barley, value $57,510.

Feed, No. 1 to choice	82½@ —
Feed, fair to good	75 @ 80
Brewing, No. 1 to choice, new	87½@ 92½
Chevalier, No. 1 to choice	1 10 @1 15
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 84¾@85¾c.

December, 1899, delivery, 84⅛@86⅜c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 85⅞c; seller 1899, new, —c.

Oats.

The market for this cereal has shown a little more activity within the week, but a decidedly weaker tone than had been ruling. The quotable range of prices for Whites showed a radical change. As for some weeks preceding, trading was largely in colored oats or in common to medium grades of white. Fancy white oats were not plentiful, nor were many required to satisfy the demand at the comparatively firm figures generally demanded. There were some very low-grade oats on market, having more the appearance of sweepings than anything else, and such were difficult to place, most buyers refusing to take them at lowest quotations.

White Oats, fancy feed	1 12½@——
White, good to choice	1 07½@1 10
White, poor to fair	1 05 @1 07½
Gray, common to choice	1 05 @1 10
Milling	1 10 @1 15
Surprise, good to choice	1 15 @1 20
Black Russian	90 @1 00
Red	90 @1 10

Corn.

While arrivals were light and were almost wholly Eastern product, they showed some increase over receipts of preceding week. In quotable values there were no changes. Most of the corn coming forward represents deliveries on previous sales. That arrivals of any description of corn will assume very large proportions for some weeks to come is not probable, as it is too early for new crop and too late for free receipts of old or last year's stock.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 40 @ —
Eastern Mixed	1 00 @1 02½

Rye.

Values remain steady, but there is not much doing in this cereal. Fortunately for the holding interest, stocks are not large, having been greatly reduced by recent shipments outward.

Good to choice, new	95 @ 97½

Buckwheat.

Same inactivity as previously noted, absence of noteworthy offerings making it impossible to have other than a stagnant market. Local millers are desirous of making purchases.

Good to choice	2 15 @2 30
Silverskin	— @ —

Beans.

The market has not developed any pronounced changes since previous review, either in general tone or quotable values. Trade is exceedingly quiet, buyers in most instances holding back for new beans, very few of which have yet come forward, and indications are that arrivals of new will continue light for some weeks to come, as much of the threshing on the Sacramento river has yet to be done, and the crop is earlier in that section than any other producing point of note in the State. Dealers are not displaying any anxiety regarding their holdings of last crop. The supplies of last year's beans now in store and warehouse are of moderate volume, and are mostly in few and strong hands, thoroughly competent to hold. When new crop beans begin to arrive in anything like wholesale quantity, there will doubtless be an effort made upon the part of buyers to depress prices temporarily as much as possible, this being invariably the case when new crop beans are arriving freely, but that there will be any substantial reason for the market developing pronounced weakness does not now appear.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 65 @1 75
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinka	2 15 @2 25
Bayos, good to choice	1 70 @1 80
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 00 @4 15
Black-eye Beans	3 00 @3 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Recent mail advices from New York City give the following review of the bean market, prices quoted being 60-lb bushel:

An export demand for Marrow beans was developed early in the week, and though the jobbing trade did not show much further expansion, the market became firmer at once. About 800 barrels were taken at $1.60 f. o. b. No advance beyond that figure was established until Thursday, when a few of very choice quality were jobbed at $1.62½. The latter figure is now quite generally asked. Recent purchases of small white beans for Porto Rico have cleaned the stock up quite closely, and there is now a firm holding of both Medium and Pea at $1.40. Jobbing orders for new Michigan Medium in bags have been taken at $1.40, and part of a car sold to arrive at that. Samples of new State are shown and there is promise of excellent quality. Red Kidney have shown no change. A few hundred barrels were wanted for export and receivers filled the orders at $1.67½@1.70. Those figures are now asked and in some quarters a little more confident feeling is shown. The stock of White Kidney is about exhausted; last sale for export at $1.95. Yellow Eye have have some sales at $1.40. Turtle Soup very slow. Over 4000 bags of California Lima arrived this week. Prices have not changed much, but rather a light trade is passing; quotable at $2.75@2.77½. Only a few old or Scotch peas left and these work out slowly at about late quotations. A car of new Scotch came in and part sold in a jobbing way at $1.10 for bags.

Dried Peas.

There is a moderate business doing in new crop offerings from first hands, mainly in Green or Blue, buyers at present giving the Niles variety very little attention. Choice Green command tolerably stiff figures, but it is the exception where offerings are fine enough to induce wholesale buyers to pay top quotation.

Green Peas, California	1 75 @2 00
Niles Peas	1 25 @1 50

Wool.

The local market is not wholly lifeless, but the business doing in grease wool is of light volume, necessarily so on account of the limited offerings at present and the poor opportunity afforded buyers to make selections. There is some movement in a quiet way in scoured stock on Eastern manufacturing account, and at values showing a fairly healthy tone to the market, although the advance in freight rates to the East by rail of 30 cents per 100 pounds on scoured wool and 20 cents per 100 pounds on grease wool, to take effect on the 5th prox., naturally tends to depress prices in this market correspondingly. Manufacturers have been finding it very difficult to realize any profit at the figures which they have lately paid for the raw product, as prices in the woolen goods market have not advanced proportionately with the cost of the raw material. A shipment of 500 bales of pulled wool went forward via steamer and Canadian Pacific for Boston.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	—@—
Middle Counties	8 @10
Northern, free	9½@11
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

Market is in a very quiet state, there being almost a total absence of inquiry, either for shipment or on local account. There are not many hops offering from first hands at the moment, and it is well that it is so, for conditions are anything but favorable for the exertion of selling pressure. Most dealers are amply provided for the time being with contracted hops, and those who are not stocked up are slow to purchase until it is more definitely known just what the crop will be in this country and in Europe. While the outlook does not appear favorable for a firm market, conditions later on may develop a better state of affairs for the producing interest than many now think probable.

Good to choice, 1899 crop	10 @12½

A New York authority gives under recent date the following review of the hop trade:

There is practically nothing doing on this market at present. A few lots of new hops, and some of the '98 crop, are arriving, part of which are delivered to brewers, and the remainder go into store here. The absence of business makes it difficult to give very reliable quotations, but the situation does not seem to warrant much change from the figures given latterly. A good many samples of the new crop have been shown this week, and it is a rare thing to find them without mold. Some samples are only slightly specked, while others are very bad. The flavor is good, and it looks as if the hops will be richer than for several years past. Picking has been delayed somewhat by a scarcity of pickers, and the quantity that has been grown in this State is still uncertain. Some are figuring on a heavy shrinkage from last year, and we think everyone will concede a shortage. The damage done to the crop was during the the last half of August. Since then the weather conditions have been favorable. A few samples have arrived from California, most of which show premature picking, especially the Sonomas. We see no occasion to make any change in our previous ideas as to the yield. Latest advices from Oregon are to the effect that mold has done more damage than was expected, and both growers and dealers are disappointed. The best authority that we know of places the yield about the same as last year. Nothing special from Washington. Up to ten days ago all reports from England were very favorable, both as to quantity and quality, but cables received within a day or two say that lice have appeared and that the quality will be poorer than was looked for. The most reliable estimates of the crop are now placed at 540 000 to 550,000 cwts. Germany will have a large crop.

Hay and Straw.

With continued liberal arrivals of hay, the market fails to develop any firmness, especially for medium and lower grades, which constitute the bulk of offerings. Many stablemen and private parties are stocking up for winter, otherwise the market would show still greater weakness, owing to the heavy aggregate of receipts. Strictly choice Wheat hay and Tame Oat of high grade are the only descriptions which are not in excessive stock, and these sell to fair advantage, considering the general condition of the market. For some very select wheat hay $10 was realized. Straw market was quiet at former rates.

Wheat	7 00@10 00
Wheat and Oat	7 00@ 8 50
Oat	6 00@ 8 00
Barley	6 50@ 7 00
Alfalfa	5 00@ 7 50
Timothy	——@——
Compressed	8 00@10 00
Straw, ₱ bale	25@ 40

Millstuffs.

Prices for bran are at a higher range than quoted in last review, stocks not being very heavy and the demand quite fair. Offerings of middlings were light and market was without appreciable change. Rolled barley and milled corn ruled steady at previously quoted range of prices.

Bran, ₱ ton	16 50@17 50
Middlings	18 00@20 00
Shorts, Oregon	16 50@18 00
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

There is a good demand for Yellow Mustard, with very little of the same now obtainable, most of the crop having been already purchased. Brown Mustard or the Trieste variety, however, is offering rather freely and is receiving very little attention from buyers. In other seeds quoted herewith there is no business of consequence and there are few changes to record in quotable rates.

	Per ctl.
Mustard, Trieste	3 15@3 25
Mustard, Yellow	3 75@4 00
Flax	——@——

	Per lb.
Canary	3½@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	—@ —

Bags and Bagging.

The Grain Bag market is quiet, with values poorly defined, and is likely to so continue until trading begins on next season's account. For Wool Sacks there is a moderate inquiry at unchanged values. Fruit Sacks are meeting with moderate attention within range of prices below quoted.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¼
State Prison bags, per 100	5¼@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@27
Gunnies	—@11½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	5½@ 6¼

Hides, Pelts and Tallow.

The Hide market is lightly stocked and firm, some descriptions commanding an advance. Values for Pelts are well maintained, demand being good at current rates. Tallow is selling to advantage, all offerings receiving prompt attention.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11 @—	10 @—
Medium Steers, 48 to 56 lbs	10 @—	9 @—
Light Steers, under 48 lbs	9½@—	8½@—
Heavy Cow Hides, over 50 lbs	9½@—	8½@—
Light Cow Hides, under 50 lbs	9½@—	8½@—
Wet Salted Kip	9½@—	8½@—
Wet Salted Veal	9½@—	8½@—
Wet Salted Calf	10@—	9 @—
Dry Hides	16½@17	13 @—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13 @—
Dry Calf, under 4 lbs	17@—	13 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	90 @1 25	
Pelts, medium, per skin	60 @ 75	
Pelts, short wool, per skin	30 @ 50	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	
Deer Skins, thin winter	— @ 10	
Elk Hides	10 @ 12	
Tallow, good quality	4½@ 4¾	
Tallow, No. 2	3¾@ 4	
Goat Skins, perfect	30 @ 37½	
Goat Skins, damaged	10 @ 20	
Kid Skins	5 @ 10	

Honey.

Two shipments of Extracted have gone forward to Europe since last issue, the ship Springburn carrying as part cargo 360 cases for London, and the ship Aristomene taking 100 cases for Liverpool. Market shows the

same healthy tone as previously noted, with stocks of all descriptions of small volume.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

There is little arriving and no evidence of there being supplies of any consequence remaining in the interior. Market inclines against buyers.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Beef is commanding toierably steady rates, but no very heavy quantities are being consumed at present. Mutton is in fair request at quotably unchanged figures, with supplies ample for current needs. Small Veal and Lamb were in light receipt, with market fairly firm at rates quoted. Hogs did not arrive quite so freely as preceding week, but with prices continuing too high for packers, there was an abundance for the demand.

Beef, 1st uality, dressed, net ₱ lb	7½@ 7¾
Beef, 2d quality	7 @ 7½
Beef, 3d quality	6 @ 6½
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5⅝@ 5¾
Hogs, small, fat	5⅝@ 5¾
Hogs, large hard	5½@ 5¼
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lb	8 @10
Veal, large, ₱ lb	8 @—
Lamb, spring, ₱ lb	8 @ 8½

Poultry.

The firmness noted in the poultry market at close of former review proved of short duration, the arrival of four carloads of Eastern poultry on Monday of this week, and two or three more cars near at hand, giving a much better supply of Chickens and causing an easier tone to prevail. Previous values on Turkeys, Ducks and Geese were toierably well maintained for choice young stock, such not being in excessive receipt.

Turkeys, young, ₱ lb	18 @ 19
Turkeys, live hens, ₱ lb	15 @ 16
Turkeys, live gobblers	15 @ 16
Hens, Cal., ₱ doz	4 00 @5 00
Roosters, old	4 00 @4 50
Roosters, young, (full-grown)	4 00 @5 50
Fryers	3 50 @4 00
Broilers, large	3 00 @3 50
Broilers, small	2 75 @3 00
Ducks, ₱ doz	4 00 @6 50
Geese, ₱ pair	1 75 @2 00
Goslings, ₱ pair	1 75 @2 00
Pigeons, old, ₱ doz	1 25 @1 50
Pigeons, Young	1 75 @2 00

Butter.

Supplies of fresh butter from the northern coast section were of fair volume, but arrivals from other points were light. For most select qualities the market was fairiy firm at unchanged rates, but on off grades the situation favored buyers. Packed butter is in good supply, both Eastern and domestic, and the trade is now running largely on packed descriptions.

Creamery extras, ₱ lb	26 @—
Creamery firsts	25 @—
Creamery seconds	24 @—
Dairy select	24 @—
Dairy seconds	20 @22½
Dairy, soft and weedy	—@—
Mixed store	14 @16
Creamery in tubs	18 @20
Pickled Roll	18 @20
Firkin, Cal., choice to select	18 @20
Firkin, common to fair	15 @16

Cheese.

While market is quite firm for select, mild-flavored new, such being in very light stock and selling in some instances above quotable rates, there is no scarcity of other descriptions, and for the ordinary run of offerings the market lacks strength. There is not much Eastern cheese in stock at present.

California fancy flat, new	11 @—
California, good to choice	10 @10½
California, fair to good	9 @ 9½
California Cheddar	—@—
California, "Young Americas"	10 @12

Eggs.

Strictly fresh eggs, arriving from near-by henneries or ranches, are not plentiful, and such are in fair request at about same rates as last quoted. Where the eggs are uniformly large, and special attention has been given to their production, higher prices than are quotable are realized. Most of the consumers are now running on cold storage eggs, of which there are liberal stocks, both Eastern and local.

California, select, large white and fresh	29 @—
California, select, irregular color & size	24 @28
California, good to choice store	20 @24
Eastern, as to section and grading	18 @24
Eastern, cold storage	— @—

Vegetables.

Market was rather quiet, and such changes as occurred in quotable rates were in the main to lower figures. Onions tended in favor of buyers. Green Corn was in better supply and lower. Tomatoes were in excessive stock and canners had much their own way as to prices, buying as low as 15c per large box.

Asparagus, fancy, ₱ box	—@ —
Asparagus, No. 1, ₱ box	—@ —
Asparagus, common to fair, ₱ box	—@ —
Beans, Wax, ₱ lb	1½@ 2½
Beans, String, ₱ lb	1½@ 2½
Beans, Lima, ₱ lb	1½@ 2½
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	50@ —
Corn, Alameda, ₱ crate	65@ 1 00
Corn, Green, ₱ sack	40@ 75
Corn, Berkeley, ₱ crate	50@ 75
Cucumbers, Alameda, ₱ large box	25@ 50
Cucumbers, ₱ small box	—@ —
Egg Plant, ₱ box	30@ 60
Garlic, new, ₱ lb	2@ 3
Mushrooms, Buttons, ₱ lb	—@ —
Mushrooms, wild, ₱ box	—@ —
Okra, Green, ₱ box	30@ 50
Onions, Yellow, good to choice, cental	70@ 85
Onions, New Red, ₱ cental	—@ —
Peas, Sweet, Garden, ₱ lb	3@ 4
Peas, common, ₱ lb	1½@ 2½
Peppers, Green Chile, ₱ box	25@ 40
Peppers, Bell, ₱ large box	35@ 50
Pickles, small, ₱ cental	1 50@ 1 75
Pickles, No. 2, ₱ cental	75@ 1 00
Rhubarb, ₱ box	—@ —
Squash, Bay, ₱ large box	—@ —
Squash, Marrowfat, ₱ ton	6 00@10 00
Squash, Summer, ₱ box	25@ 40
Tomatoes, River, ₱ box	20@ 35
Tomatoes, Bay, ₱ box	25@ 50

Potatoes.

The potato market did not show much life and lacked firmness most of the week, especially for other than most select qualities. Oregon potatoes are still arriving in very limited quantity, but consignments of wholesale proportions from above section are looked for in the near future. Sweets were in sufficient stock for current needs and market was easy.

Burbanks, River, ₱ cental	40 @ 70
Burbanks, Bay counties, ₱ ctl	— @ —
Burbanks, Humboldt	— @ —
River Reds	60 @ 75
Early Rose	50 @ 65
Garnet Chile	60 @ 75
Burbanks, Salinas, ₱ cental	95 @1 10
Sweet River, ₱ cental	1 00 @1 25
Sweet Merced	1 25 @1 50

The Fruit Market.

Fresh Fruits.

There were no excessive stocks the past week of choice to select qualities of fresh fruit of any sort, and it was the exception where there was any noteworthy surplus of fair to medium grades, although values on latter kinds were at a rather low range, as is almost invariably the case, low prices being the chief attraction with the buyers of low-grade fruit. Apples are receiving increased attention, and for fancy qualities the market is quite firm. Select Gravenstein are in high favor with consumers, commanding in 4-tier boxes up to $1.25 per box in a wholesale way, and in small quantities $1.40@1.50. Spitzenberg are quotable at about same range, although this variety will be in better request later on than at present, being a fine keeper and taking high rank in the early spring. Belleflowers and Pippins of various kinds are selling mostly within range of 75c@$1 per box for prime to choice. Poor Apples sell down to 20@30c per box, and if very scrubby do not readily command these figures. Peaches were in reduced supply and desirable qualities were in good request, the market being firm at the quotations. Plums are now in very moderate receipt, and include few which can be termed choice. Only the latter sort is sought after or commands what could be termed good figures. Pears of the Bartlett variety are not making much of a showing, the season being nearly over; choice continue to command as firm prices as for some weeks past. Winter Nelis and other late varieties are arriving, but are not meeting with active inquiry, and seldom do at this date. Grapes in free boxes for table use met with fair custom and brought fully as good if not better average figures than preceding week. Wine Grapes continued in very scanty receipt and brought stiff prices. Watermelons and Cantaloupes remained quotably about as last noted, with good demand at the current rates. Berries in season sold as a rule at generally unchanged figures, the demand and supply about balancing.

Apricots, good to choice Royal, ₱ ton	—@ —
Apricots, Royal, ₱ box	—@ —
Apricots, Pringle, ₱ box	—@ —
Apples, fancy, ₱ 50-lb. box	—@ —
Apples, fancy, 4-tier box	1 00@ 1 25
Apples, good to choice, ₱ 50-lb. box	75@ 90
Apples, Green, common to fair, ₱ 50-lb. box	25@ 50
Blackberries, ₱ chest	3 50@ 5 00
Cantaloupes, ₱ crate	75@ 1 25
Cantaloupes, Nutmeg, ₱ crate	30@ 60
Cherries, Black, ₱ box	—@ —
Cherries, Red, ₱ box	—@ —
Cherries, Royal Anne, ₱ box	—@ —
Cherries, White, ₱ box	—@ —
Crabapples, ₱ small box	—@ —
Currants, ₱ chest	—@ —
Figs, Black, 2-tier box	50@ 75
Figs, White, ₱ box	30@ 60
Gooseberries, ₱ lb	—@ —
Gooseberries, ₱ 10-lb box	—@ —
Grapes, Black, ₱ crate	30@ 60
Grapes, Fontainebleau, ₱ crate	—@ —
Grapes, Muscat, ₱ crate	35@ 60
Grapes, Tokay, ₱ box, 30@50c; ₱ crate	40@ 60
Grapes, Seedless, ₱ box, 50@60; ₱ crate	60@ 75
Grapes, Isabella, @ crate	50@ 75
Grapes, Zinfandel, ₱ ton	23 00@25 00
Logan Berries, ₱ chest	7 00@ 8 00
Nectarines, Red, ₱ box	—@ —
Nectarines, White, ₱ box	—@ —
Peaches, fancy wrapped, ₱ box	75@ 90
Peaches, ₱ box	35@ 75
Peaches, ₱ carrier	60@ 85
Pears, Bartlett, No. 1 to choice, ₱ ton	—@ —
Peaches, Clingstone, ₱ ton	—@ —
Peaches, Freestone, ₱ ton	—@ —
Pears, Bartlett, ₱ 40-lb. box, wrapped	75@ 1 50
Pears, common, ₱ basket	—@ —
Pears, ordinary, ₱ box	40@ 75
Plums, large, ₱ ton	—@ —
Plums, large, ₱ crate	40@ 65
Plums, ₱ box	40@ 75
Plums, Cherry, ₱ drawer	—@ —
Pomegranates, ₱ box	40@ 75
Quinces, ₱ box	30@ 50
Raspberries, ₱ crate	—@ —
Raspberries, ₱ chest	3 00@ 5 00
Strawberries, Longworth, ₱ chest	7 00@ 8 00
Strawberries, Large, ₱ chest	3 00@ 4 00
Watermelons, ₱ 100	6 00@20 00
Whortleberries, ₱ lb	4@ 8

Dried Fruits.

The pessimistic wiseacres who a few weeks ago depicted such a gloomy outlook for cured and evaporated fruits should now be crawling into small holes and drawing the holes after them. They probably had no convictions in the matter, but were simply working in the interests of dried fruit handlers who wanted the market depressed. The work in this direction, however, had little effect. Seldom has there been a more active dried fruit market than has been experienced the current week. Orders have been coming in, both domestic and foreign, from all directions and for all kinds of fruit, most of the firms in the dried fruit trade being in receipt of more orders than they can conveniently or immediately fill. While the market throughout showed improved tone, firmness was confined more particularly to Apricots, desirable qualities of Peaches, Pears and Pitted Plums. Business was active in Peaches, with market fully half a cent higher than preceding week. For Chinese cured Peaches of good quality 5c was the lowest figure at which carload lots were obtainable at interior shipping points; for fancy qualities of unpeeled, buyers in the country freely bid 7c, and did not hesitate to pay an advance on this figure where it was necessary to secure the goods. Pitted Plums are also quotably higher, and buyers find it difficult to secure large quantities at current figures. Pears are in very moderate stock, and market for choice is against buyers. Figs are in good request and market is firm for prime to fancy at the prevailing rates. Apples are ruling steady, but there is no great amount of trading in them at present. Prunes are quotably unchanged, but market is relatively firmer for the small than the large sizes, the latter being in heaviest supply this season. Numerous orders are being received for Prunes at the low figures prevailing. Buyers are bidding on the four-size basis, or for 60's to 90's, 3c for Santa Claras, 2¾c for Northern California and 2½c for San Joaquin valley product.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10 @12
Apricots, Royal, fancy	12 @13
Apricots, Moorpark	13 @15
Apples, in 50-lb. boxes, rings, pressed, fancy	7 @ 7½
Apples, 50-lb. boxes, rings, pressed, good to choice	6½@ 7
Figs, White, fancy pressed	8 @ 8½
Peaches, unpeeled, good to choice	5 @ 6
Peaches, unpeeled, fancy	7 @ 8
Peaches, peeled, in boxes	11 @12½
Pears, unpeeled Bartletts, halved, fancy	10 @11
Pears, halved, unpeeled Bartletts	8 @ 9
Pears, quartered, unpeeled Bartletts	7½@ 8½
Plums, Black, pitted	6 @ 6½
Plums, White and Red, pitted	7 @ 7½
Prunes, in sacks, 40—50's	4½@ 4¾
50—60's	—@—
60—70's	3¾@ 4
70—80's	3¼@ 3½
80—90's	2¼@ 3
90—100's	2¼@ 2½
110—130's	1¼@ 2
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.	
4 sizes Santa Claras and equal	3 @—
4 sizes San Joaquin and Northern	2½@ 2¾
Prunes, Silver	4 @ 7

COMMON SUN-DRIED.

Apples, sliced	4@ 5
Apples, quartered	4@ 5
Figs, Black	2@ 3
Figs, White	—@—
Peaches, unpeeled	—@—

Advices of late date by mail from New York City furnish the following report of the dried fruit market:

Apples are unchanged. Spot offerings of evaporated are moderate, but there is only a light jobbing trade, and while former prices are realized the tone is easy, especially as stock is offering for October and November delivery at 6½@7c for prime, and some stock of a lower grade is selling at 6¼@6½c, and lower in instances, a lot of 1000 cases selling at 6c. Few sun-dried apples here and not much doing in them. Chops and waste scarce and nominal; a little more doing in chops for future delivery, generally at 2@2½c. Small fruits in light supply and generally higher, with small jobbing sales of berries higher than quoted. California fruit in fair request at unchanged prices.

Apricots, Cal. Moorpark, 1899, per lb	14 @16
Apricots, Cal. Royal, 1899, per lb	12 @13
Peaches, Cal., 1899, unpeeled, in boxs. lb	7¾@9
Peaches, Cal., 1899, unpeeled, in bags, lb	8 @ 8½
Prunes, Cal., 1898, per lb	3 @ 8

Raisins.

There are now no old crop Raisins now remaining in first hands. New crop Muscatel are expected on market soon in limited quantity, and buyers are eagerly awaiting first arrivals. New Seedless are now offering. The Raisin Growers' Association has just issued price list for new crop layer Raisins and loose Muscatel.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ₱ box	$3 00@—
Do do 5-crown, ₱ box	2 50@—
Do do 4-crown, ₱ box	2 00@—
Do do 3 crown, ₱ box	1 60@—
Do do 2-crown, ₱ box	1 50@—
Valencia layers, ₱ 20-lb box	80@1 00
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	6½@ —
Loose Muscatel, 3-crown	6 @ —
Loose Muscatel, 2-crown	5½@ —
Loose Muscatel, ungraded	—@ —
(Above prices for loose raisins are for 50-lb boxes.)	
Dried Grapes	—@ —

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Citrus Fruits.

The Orange market is almost lifeless. A few late Valencias are offering at $4@5 per box. Lemons are held about as last quoted, but only for choice to select is the market firm. Limes are high, being in light stock and in few hands.

Lemons—Cal., select, ₱ box	3 50@ 4 00
Cal., good to choice	2 50@ 3 00
Cal., common to good	2 00@ 2 50
Limes—Mexican, ₱ box	7 50@ 8 00
Cal., small box	—@ —

Nuts.

The Walnut Growers' Association fixed the price this week for their crop at 8.15c per lb. for soft shell, half a cent less for standards and a cent less for seconds. Their agents took to their own account the entire crop controlled by the Association and immediately advanced the price to 8¾c for soft shell. Prospects are favorable for still higher prices. Almonds are scarce and firmly held. Peanuts are in very light stock.

California Almonds, shelled	— @—
California Almonds, paper shell, ₱ lb	12 @14
California Almonds, soft shell	10 @12
California Almonds, hard shell	8 @ 9
Walnuts White, Cal., standard	8½@ 9
Walnuts White, paper shell	— @—
Walnuts White, soft shell	9½@10
Chestnuts, Cal. Italian	— @—
Peanuts, Cal., fair to prime	5½@ 6¼
Peanuts, Eastern hand-picked	6½@ 7½
Pine Nuts	5 @ 8

Wine.

While there is no evidence of much doing in offerings from first hands, and no changes to record in quotable rates for immediate deliveries, 15@20c per gallon being still the range of prices for new Claret, the market is decidedly strong in tone. The quantity of wine now remaining in the hands of producers is small. With wine grapes commanding 50% more than a year ago, and the supply light, there is every prospect that wine the coming year will rule higher. The ship Springburn, sailing the past week for London, took 20,330 gallons. Last Saturday's steamer for Victoria carried 4000 gallons, mostly for St. Louis.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	71,797	1,302,843	1,098,646
Wheat, ctls	13,565	1,005,866	773,944
Barley, ctls	199,032	1,991,685	352,819
Oats, ctls	17,740	196,027	139,435
Corn ctls	610	24,270	36,825
Rye, ctls	....	55,797	5,285
Beans, sks	2,789	42,152	68,491
Potatoes, sks	25,814	257,088	244,037
Onions, sks	3,637	59,272	57,877
Hay, tons	4,372	49,744	52,848
Wool, bales	1,271	17,450	16,488
Hops, bales	761	1,882	2,462

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	34,432	763,451	747,768
Wheat, ctls	6,839	781,406	427,433
Barley, ctls	116,255	1,487,541	63,302
Oats, ctls	95	12,280	5,625
Corn, ctls	61	3,987	4,273
Beans, sks	172	4,682	17,305
Hay, bales	....	22,628	10,160
Wool, lbs	....	75,991	587,901
Hops, lbs	32,286	189,565	375,877
Honey, cases	113	1,503	1,234
Potatoes, pkgs	585	13,544	11,929

California Dried Fruit at New York.

NEW YORK, Sept. 27.—California dried fruits: Market quiet and steady. Evaporated apples, common, 7¼c; prime wire tray, 7¾@8¼c; choice, 8¾@9c; fancy, 9¼@9½c.

Prunes, 3½@8½c.

Apricots, Royal, 12½@14c; Moorpark, 15@16c.

Peaches, unpeeled, 7¾@9c; peeled, —@—c

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Some Notes on the California State Fair of 1899.

By a Staff Correspondent.

The California State Fair of 1899 will pass into history as one of the most successful ever held in the State. In the artistic merit of exhibits at the Pavilion, in the variety and attractiveness of the daily programmes offered, and in the magnitude of the resultant attendance, this Fair has certainly never been equaled in California save by the great Midwinter Fair of 1894. One thing which undoubtedly contributed to the general success of the Fair was the fact that the State Board of Agriculture has been headed by a prominent capitalist and business man whose interest in the metropolitan press led one of the city journals, at least, to be exceptionally friendly toward the exposition. The society has also been fortunate in having a secretary who left no stone unturned that would contribute to the success of the exposition. But what is conceded to have been the winning factor in 1899 was the work of the Citizens' Committee of Sacramento. To this committee belongs the credit of the special attractions on the daily programmes, thus preventing the exposition from falling into the rut of monotony, and keeping public interest and curiosity on the qui vive. The story is best told by the receipts at the doors of the Pavilion and at the gates to the track. Besides obtaining more for concessions than last year, the receipts for admissions were fully $8000 in excess of those in 1898, reaching the unprecedented amount of $23,000. The State Agricultural Society will at last be able to make a liberal payment upon the indebtedness which has hung over it for so many years.

The Pavilion presented an attractive picture as one stepped in out of the prosaic streets of the capital city. The vari-colored banners and streamers, hung at points of vantage from gallery and pillar; the glitter and sheen of glass and polished metal; the animation of a well-dressed, robust, happy people, all contributed to the exhilaration of an onlooker. Especially in the evening were the attractions of a striking nature. Then the thousands of electric lights lent a peculiar brilliancy to the scene, fairly transforming night into day.

The Nonpareil's Novel Display.

As one entered the Pavilion the eye rested upon a stately structure in imitation of white marble, adorned with statues, graceful columns and towers, and surmounted by an imposing dome. Over its main archway the golden helmet of an old-time knight looked down upon the curious visitor, the colored electric lights behind the bars of its visor making one imagine them, for a moment, the eyes of one of the old chivalry gazing down upon the eager crowds streaming through the portal.

This carefully executed design was a representation of the grand, main entrance to the World's Exposition, to be held in Paris in 1900. Its interior was tastefully decorated and illuminated with many electric lights, showing to admiring visitors the exhibit of Wasserman, Kaufman & Co., "The Nonpareil," replete with all the beauty that shimmer and gloss of silk, satin and other rich fabrics could give; gowns that were modeled by the expert designers of the old world's capitals; hats fresh from the hands of the most noted Parisian milliners, and from the skilled makers in the firm's own workrooms, everything of the best, the richest and the most beautiful. As a unique, original conception this exhibit was hard to excel, and excited favorable comment from all beholders. The idea of a Paris design filled with Paris designs was carried out and the attention given it must have proved gratifying to both designer and exhibitor.

Fruit Displays.

The first display of fruit which one encountered on entering the Pavilion was that of Robert Williamson, formerly of the firm of Strong & Co. Mr. Williamson is now a resident of Oakland, but owns a fifteen-acre tract just outside the Sacramentocity limits. From this farm he entered this year at the State Fair ninety-six varieties of apples, pears, plums and peaches, several varieties each of grapes, figs, nectarines, pomegranates and quinces, one of dates, twelve of English walnuts, twelve of almonds, several of pecans, filberts and chestnuts, besides canned and preserved fruits, jams, jellies, pickled, ripe, green and dried olives, olive oil, etc. It was an extensive individual display and was tastefully arranged. Besides the $100 cash premium for the best display of horticultural products, Mr. Williamson received fifteen to twenty minor first premiums.

Close to the exhibit above described was stationed that of Mr. and Mrs. J. P. Odbert, whose home is located two miles east of Sacramento. Mrs. Odbert has been a reliable exhibitor at the California State Fair for more than thirty years. She always shows a commendable variety of preserved fruits, jams, jellies, etc., while Mr. Odbert takes great pride in his display of fresh fruits, English walnuts and almonds. They secured many premiums this year, as they have always done in the past. Mrs. Odbert was granted the sweepstakes prize on her display of domestic bread and cake, while her jellies and jams were conceded to be the nicest at the Fair. She displayed eighty-six varieties.

Across the aisle from Mrs. Odbert's exhibit was the creditable display of fresh and dried fruits, jellies, jams, etc., prepared by Mrs. Mary S. Kerr of Elk Grove. Mrs. Kerr captured several premiums, notably on best home-made biscuit, best wheat and graham bread, best display of raisins, best packed and best dried peaches, premium for farm products, etc. Mrs. Kerr is a prominent example of a successful fruit grower in the ranks of the gentler sex. Being left a widow, she stuck to the farm, and directs all the detail work about the place with a cleverness that is praiseworthy.

Sacramento County's Exhibit.

Chief in the agricultural department this year was the exhibit of Sacramento county, collected and arranged by a committee appointed by the Board of Supervisors. This committee consisted of J. A. Read, Thos. Waite and Mrs. E. Shields. The committee named was ably assisted by committees appointed by the various subordinate Granges of Sacramento county, especially from Sacramento Grange No. 12, who fitted up a booth which formed the central figure of the entire exhibit.

The county exhibit occupied the entire conservatory space at the left of the main entrance. The center of the exhibit was made up of two sections of pyramid shelving, each covering a space of 10x16 feet, 12 feet high, and holding more than 225 jars of choicest fruits of great variety in liquid preservative. The pyramids were lined inside with pink tartatan, which was backed with potted plants. At night numerous incandescent lights brought into brilliant relief and contrast the golden fruit and green foliage of these pyramids. The overhead portion of the conservatory was draped with festoons of hop vines, hung from trellises arranged for the occasion.

At either end of the pyramids were specimens of extra large growth of Sacramento county products. One of these was tomato vines, 11½ feet high, covered with ripe and green fruit, as well as bloom; the other was a huge barrel filled with stalks of yellow corn, 16 feet in length, some of which bore four ears, large and well filled.

At the main entrance to the county exhibit were stationed two hives of bees, so arranged that the public could observe the work of these insects as they came and went through hollow canes extending to the outer limits of the building. This exhibit aroused no little interest among the thousands of visitors who thronged this department.

Adjoining the bee exhibit was a bakery display, with loaves of bread 10 feet long down to delicate and tempting lady fingers.

Next came the exhibit from Fair Oaks Grange, showing a wonderful growth of trees and vegetables of many varieties, all proving the exceptional fertility of the soil in that section of the county. Here, too, was displayed photographs and other material calling attention to the Four Gables Academy of Fair Oaks, an institution furnishing instruction in normal, business, music and art departments, and supervised by Mr. and Mrs. Elmore Chase.

An exhibit of hops adjoined the Fair Oaks display. Daniel Flint, the exhibitor, is one of the pioneer residents of the county, and has two extensive hop ranches, one located near the city of Sacramento, the other on the Cosumne river. Mr. Flint not only furnished hops for his exhibit, but donated all that were needed to decorate the conservatory.

The center feature of the entire county exhibit was an oval booth, in the form of a shell, representing the Court of Pomona. Herein were represented the three stations presided over in the subordinate Grange by Ceres, Pomona and Flora, each decorated with proper regalia. The upper portion of the shell was wreathed with bunches of wheat, oats, barley and asparagus, and was studded with numerous incandescent globes, which emitted a beautiful, mellow light. Beneath the fringe just described were located three imitation sunflowers, 5 feet across, the centers of which were of painted wood and the leaves represented by plumes of pampas grass. Below this was a shelf filled with the choicest of jellies and jams, all home-made and donated by members of the Grange. Underneath the shelf, the walls of the booth were decorated with the working tools of the Order, from the first presented to candidates on initiation to the last before entering into the harvest feast. The floor of this booth, elevated 3 feet above the Pavilion floor, was covered with products of the farm, of every variety and description, the front being lined with the choicest of cut flowers, which were renewed from day to day. The booth in its entirety reflected much credit upon its designer, J. A. Read, but he was ably assisted by John Schell, Mr. and Mrs. J. H. Hayden, Mrs. Robbins, Alice Duden, Mrs. Read and others, all members of Sacramento Grange No. 12.

Adjoining Sacramento Grange's booth on the right was the exhibit of Capitol Grange No. 305 of Oak Park. Bamboo sideboards were here filled with jellies, jams, preserves and the choicest fruits from that section of the county. The exhibit was wonderful in its variety of products, all of which were tastefully displayed. The booth was presided over by Mrs. I. G. Shaw, Mr. and Mrs. Daly, and other members of Capitol Grange.

Then came the exhibit of Elk Grove Grange No. 86, showing fine samples of needle and fancy work, besides products of a more stable nature, such as corn, wheat, hops, etc. All were symmetrically and beautifully arranged.

The next feature was a display of flour and feedstuffs from the Brighton Milling Co. The extreme south corner was occupied by the Pioneer Pickle Works in a neatly arranged exhibit of bottled goods on pyramid shelving draped in national colors. Then came an exhibit of vegetables, roots, etc., for table use, collected by G. P. Curtis of Curtis & Co., Sacramento. The collection included many interesting specimens.

Across the south entrance to the exhibit was a neat and attractive display made by the Capitol Paste Co. of Sacramento. Then followed a display of dried fruits from many private citizens, all put up in an attractive, marketable form and illustrating anew the resources of the county.

The shelving from this point to the main entrance was occupied by the exhibit from Florin Grange No. 130. Besides numerous other products, there was here an unusually fine display of grapes, packed in the original style adopted by Florin growers, and all demonstrating that in the production of this fruit Florin can not be surpassed. Prominent among the exhibitors in this section were T. E. Davis, W. O. Davis, D. Reese, G. Butler, W. C. Smith, L. M. Landsborough, W. A. Mott and E. F. Straight.

In the center of the Sacramento county exhibit was located a case containing two trophies won by the county at the Midwinter Fair. These trophies had heretofore been kept in such seclusion at the County Treasurer's office that it was a revelation to many citizens to have them brought out into the light of day. Underneath the trophies were arranged polished specimens of most of the varieties of hard and soft woods grown in Sacramento county.

The entire exhibit was ornamented at points of vantage with choice potted plants from the nursery and conservatory of F. A. Ebell, the well-known florist. Taken all in all, the exhibit reflected great credit upon those having it in charge, and was an excellent representation of the resources of the county. It was universally conceded to have been the best exhibit made by the county at a State Fair for many years. Had it not been barred out by the agricultural board from competition with private exhibitors it would undoubtedly have received the gold medal for its great extent and artistic merit. The thousands of visitors who viewed the display each evening proved that it was one of the most popular exhibits of the entire Fair. One thing which contributed to this popularity was that polite attendants were always on hand to receive visitors and answer queries. Messrs. J. A. Read and W. T. May, with the assistance of Miss Laura Jacobs, were the guardians of the exhibit and they performed their duties conscientiously and in a pleasing manner.

Olive Oil Exhibit.

To the right of the main entrance in the Pavilion was an exhibit of one of California's peculiar products. It was a display of pure olive oil, manufactured and bottled by Ekman & Stow of Oroville, Cal. This brand (E. & S.) is acquiring world-wide fame by reason of its purity and superiority over other imported oils. The business has so expanded under the management of the manufacturers that they are now erecting a new and modern plant, combining the best principles of European concerns with the experience obtained by American manufacturers. The attendants at this exhibit furnished small free samples of the E. & S. oil, and served dainty dishes of salad garnished with the E. & S. dressing.

Around the Band Stand.

Grouped about the music stand, on which the performances each day and evening took place, were some of the notable exhibits of the Fair. That of the American Steel & Wire Co. was the best of the entire exhibition and was rightly awarded the gold medal for artistic excellence. That of Holbrook, Merrill & Stetson was very striking, while the exhibit from Schaw, Ingram & Batcher, for practical suggestiveness, was not a whit behind. The grocers of Sacramento united in a series of booths, all being beautifully draped and brilliantly lighted. Messrs. Ebell & Williamson had refreshing exhibits of potted plants, ferns, etc., in opposite corners of the main hall. The carriages and vehicles exhibited by Meister & Son, F. J. Hill and others filled the principal portion of the north wing. John Bruner had a fine exhibit across the entire end of the west wing.

Machinery Hall.

Unlike the condition that prevailed in this department last season and the year previous, there was a constant hum and din in this portion of the Pavilion the present year. Every foot of floor space was covered, and some late entries were forced into the outer enclosure near the poultry exhibit. The silo cutters exhibited by Hooker & Co. and by G. G. Wickson & Co.—the process of manufacturing ensilage being demonstrated and explained by Prof. Fowler—attracted as much attention here as any other feature. W. G. Read's almond huller, the Wood pump, and the Osborne farm implements also drew many visitors.

Creamery Exhibit.

This exhibit was in the north wing of the Pavilion, and filled a considerable space. It was the center of much interest. The butter exhibits came from a wider range of territory than the displays in any other department at the Fair. The following counties, fifteen in number, were represented: Del Norte, Humboldt, Kern, Lassen, Los Angeles, Lake, Mendocino, San Joaquin, San Benito, Santa Barbara, Santa Cruz, Sonoma, Stanislaus, Sierra, Yolo. The premiums were widely distributed. In the class of Fresh Butter there were fifteen entries. The best six specimens, in tubs of twenty pounds or over, were found to be from the following parties: First best, Alton Creamery Co., Alton, Humboldt county; second best, Eel River Creamery Co., Wadington, Humboldt county; third best, Geo. E. Peoples, Bakersfield, Kern county; fourth best, O. J. Vine, Lakeport, Lake county; fifth best, G. G. Knox, Knight's Landing, Yolo county; sixth best, Allen Quain, Stockton, San Joaquin county.

In the class of Storage Butter there were ten entries. Premiums were granted as follows: Best package of storage butter, put up between June 1st and July 1st, W. M. Turner, Sierra Valley, Sierra county; second best, E. H. Zimmerman, Watsonville, Santa Cruz county; third best, J. N. Keiser, Hollister, San Benito county; fourth best, D. Brough, Newman, Stanislaus county; fifth best, A. J. Bloom, Petaluma, Sonoma county; sixth best, Bailey Bros., Smith's River, Del Norte county.

For the best complete creamery outfit the premium was awarded to G. G. Wickson & Co. The same firm also captured first prize for the best hand cream separator, and ten of the other premiums offered in this department.

Mr. Spence took first premium on the Sharples tubular (power) separator, and also first premium for the best standard milk tester.

Poultry Department.

The poultry exhibit was this year located in a canvas-covered annex, on the north side of the Pavilion, instead of being at the park, as heretofore. This led to increased attendance. There were eight rows of coops within the enclosure, which was about 120 feet square. The entries numbered about 717 birds, exclusive of ducks, geese or pigeons. Many of the well-known breeders of the State were represented. Among these were: L. E. Brainard of San Jose, who carried of forty premiums (many of them first) on his Buff Leghorns, Buff Plymouth Rocks, Buff and Partridge Cochins, White Wyandottes, Huodans and Golden Seabright Bantams. In the first named classes the competition was very keen. Mrs. F. H. Snow of Roselawn Poultry Yard, San Jose, exhibited 145 birds. For the third year she captured the sweepstakes premium, and sixty-nine other prizes. L. J. Romer of Florin, exhibited several coops of Barred, Buff and White Plymouth Rocks, etc., on which he obtained premiums. Altogether, the poultry exhibit was in advance of that made in previous years, showing increased interest and development in this important industry.

Exhibit of A. J. Pommer.

Mr. Pommer's sixteenth annual exhibit was a feature of the gallery display. A carload of pianos, consisting of the celebrated Steinway & Sons, Emerson, Ludwig & Co., Smith and Barnes pianos, and Estey and Putnam organs, were artistically arranged among evergreens, the Stars and Stripes, pictures of our war Presidents and the heroes of the Spanish war. He also exhibited an extensive line of music boxes, two talking machines, a graphophone and a gramophone. His line of sewing machines was more extensive than in former years. The Domestic, Standard, Automatic and New White were each represented by a different operator. The now popular Pommer sewing machine was much admired. This machine retails for $22.50, $24.50, $30 and $35. Orders for forty-four of them were received during the Fair. His Regina sewing machine, price $19.50 and $24.50, made most beautiful fancy work. Orders for twenty-nine of them were taken during the Fair. He gave away a fine $75 Domestic sewing machine, which was won by ticket No. 2112. During the sixteen years Mr. Pommer has exhibited he has received silver medals, diplomas and gold medal. His store is located in Sacramento, at the corner of Ninth and J streets, in his own fine, new three-story structure, known as the Pommer building.

Vehicles and Implements.

Prominent among the exhibits in Machinery Hall and in the north wing of the Pavilion, was the display made by the Diggs Vehicle & Implement Co. of Sacramento. For the second season this firm carried off first premium on the Crown mower, manufactured by the Janesville Machine Co., of Wisconsin, the Diggs Co. being sole agents for California. Their exhibit of Oliver Chilled plows attracted much attention. They also showed other implements for which they are agents, viz: Crown all-steel rakes and iron rollers, the Budlong disc harrow, various styles of aultivators, the star sickle and tool grinder, a machine which accomplishes the greatest results with the least possible complications, also a line of the Elwood wire fencing and gates, etc., etc. A Petaluma incubator with little chickens running about its confines, was a feature of the exhibit. In the line of vehicles the Diggs Co. showed fine samples of the Columbus Buggy Company's manufacture; also of the H. H. Babcock Co.'s wagons and buggies. The famous Weber wagon was shown to advantage. The Diggs Co. are large jobbers in all the above named goods, the same being of the highest grade in all their respective classes. The company is doing a large and increasing business. Their display at the Fair was highly creditable.

In the Gallery.

This was the favorite rendezvous of the social set in Sacramento. It was thronged each evening, for here one could sit in comfort (if lucky enough to secure a chair) and listen to the sweet strains of music from Neale's band of performers, and between times gaze upon the dancers or acrobats upon the stage, or scan the hundreds of promenaders who filed past in an endless procession. Surely one noting the handsome dames and

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charming maldens who visited the State Fair could not deny that youth and beauty were represented. The evenings were dressy occasions for the ladies, and they looked very pleasing in their light summer garbs.

The north wing of the Gallery was occupied as the art gallery. The pictures and drawings this year were not of uncommon merit, but contributed greatly to the general excellence of the Fair. The south wing of the Gallery was filled largely with commercial exhibits, all attractively arranged in pretty booths. The Gallery walls were covered with artistic needle and fancy work, the displays of local photographs, and the drawings and other exhibits from commercial and public schools.

Fine Exhibit of Health Foods.

The halftone on this page gives a good idea of the display made at the State Fair by the St. Helena Sanitarium Health Food Co., whose products have become so popular, not alone in California, but all over the coast.

During each evening of the Fair eight young women from the Sanitarium, several of whom are trained nurses, were kept busy demonstrating the foods to numberless interested visitors, more especially Caramel Cereal, which is, as its name indicates, a cereal coffee; Granose, a new cereal food, made from the entire wheat berry, and Granola, which is prepared from a combination of several grains, so as to give all the elements of nutrition.

Besides the three articles named above, the St. Helena Company manufactures a number of other food specialties, all intended for the use of those who have come to realize that health depends not so much on the quantity and variety of medicines taken, as upon the observation of a proper, rational diet.

While these foods are primarily intended for general consumption, they have also proven most useful for physicians in the treatment of all cases into which enters the necessity for careful dieting.

The company has been the recipient of numerous premiums at the State Fair and at county fairs throughout the State. At the State Fair just closed the only silver medal awarded to cereal coffees was granted to Caramel Cereal, one of the products of this company.

Kohler & Chase's Exhibit at the State Fair.

This firm had an effective exhibit in the gallery at the recent State Fair. It was under the management of their very capable traveling representative, Mr. J. W. Hopkins. Kohler & Chase are satisfied to handle nothing but the best in any given grade of instruments. The tuneful quality and pure tones of the pianos exhibited were clearly demonstrated by the work of skillful performers at any piano composition ever witten can be played without error and with the touch of the most skilled artist.

Kohler & Chase sell everything in the music line. Their general headquarters are 26-30 O'Farrell street, San Francisco. Theirs is the oldest and largest music house on the coast, having been established for half a century. They have agents in all the leading cities on the coast, their representative in Sacramento being R. T. Cohn.

Howe's Academy at the State Fair.

In the gallery of the east wing of the great Exposition building at Sacramento, during the last State Fair, was located the very fine exhibit of Howe's Academy and Business College. This excellent school arranged in a pleasing and attractive manner fine specimens of the various styles of writing, as well as a variety of business forms, all being the work of students. Prof. Howe was awarded all the medals and premiums in his department for his meritorious displays. These awards, however, are but repetitions of similar awards in previous years, even under the keenest competition from Stockton, Oakland and other centers of education.

The Academy, originally known as Howe's High School and Normal Institute, was organized in 1873, and until three years ago made no pretentions to the teaching of business courses. At present, however, no school on the coast offers greater inducements to students who contemplate pursuing the work of any of its departments. Its Normal graduates are to be found in numbers in almost every county of California, and so great has been the demand on the Academy for accountants and amanuenses that it has become an utter impossibility to supply the various calls. Its term tuition is but $6 per month, and every opportunity is offered to the student for rapid advancement.



DISPLAY OF THE ST. HELENA SANITARIUM HEALTH FOOD CO. AT THE STATE FAIR.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPTEMBER 12, 1899.

632,829.—HYDRAULIC ELEVATOR — S. L. Berry, S. F.
632,863.—CHILD'S BIB—C. A. Blank, Berkeley, Cal.
632,833.—WAVE MOTOR—W. A. Cheney, Los Angeles, Cal.
632,806.—PASTE BOTTLE—G. P. Cragin, Spokane, Wash.
632,996.—HARNESS BUCKLE—J. A. Gavit, Waitsburg, Wash.
630,840.—CAN BODY FLANGING MACHINE—A. Lotz, S. F.
632,843.—DENTAL FORCEPS — N. B. McGhee, Orange, Cal.
633,023.—SPECTACLES — C. E. Miehle, Riverside, Cal.
633,099.—SAFETY HOOK — W. Miller, Chloride, Ariz.
632,845.—BADGE FASTENER—J. P. Petsch, Los Angeles, Cal.
632,826.—WAVE MOTOR—M. B. Rice, Tustin, Cal.
632,856.—ICE CREAM FREEZER — S. Sweeney, Los Angeles, Cal.
632,954.—RIFFLE PLATE—H. Tuttle, Quartz, Cal.
632,797.—BICYCLE—G. Van Horn, High Grove, Cal.
633,059.—CONCENTRATOR — J. Woodham, Longbeach, Wash.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

CHILD'S BIB.—Chas. A. Blank, Berkeley, Cal. No. 632,863. Dated Sept. 12, 1899. This invention relates to a bib or device which is especially designed to protect the clothing of young children while being fed, the object being to provide a durable, clean, light and easily handled and cleansing device. It consists of a rigid impervious sheet having the upper portion concaved to fit about the neck and the lower portion formed with a receiving roll having an inwardly curved side, the edges of which are turned upwardly to form conductors so as to convey the spilled material into the roll.

CAN BODY FLANGING DEVICE.—A. Lotz, San Francisco, Cal., assignor to F. A. Robbins, same place. No. 632,840. Dated Sept. 12, 1899. This invention relates to an apparatus for flanging can bodies. It consists in a mechanism by which the end flanges of the can bodies are turned outwardly, and comprises a chuck having a shouldered portion of diameter equal to the interior of the can, a similarly shaped independent ring, the contiguous face of which is coincident with that of the shoulder yielding supports by which the ring is normally retained in line with the shouldered portion. A roller is adapted to be brought into contact with the exterior of the can which is fitted over the ring and shouldered portion, and by suitable mechanism the parts are rotated so that the roller will force the ring out of line with the shoulder portion and thus turn a flange upon the can end; the yielding portion, being made of rubber or similar material, allows for these parts being forced out of line for the above purpose.

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The largest stock in the State of Citrus Fruit Trees. **Trees from 25c up.**
Tropical Fruit Plants of every sort. Catalogue Free.
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BECAUSE they are made on correct principles, therefore give the best results. The Menzel Hardware Co. of Santa Clara, Cal., state that "they have put up a large number of pumps of all kinds this season, but yours give us and our customers the best satisfaction."
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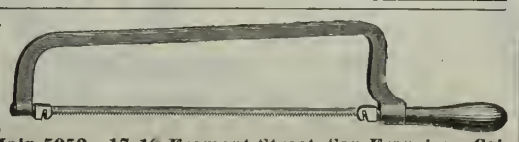
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Pacific Saw Manufacturing Company
Manufacture the
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Emery Wheels, Grindstones, Files, Saws, Machine Knives, Etc. Sheet Steel. **Tel. Main 5052. 17-19 Fremont Street, San Francisco, Cal.**

Patrons of Husbandry.

Sonoma Pomona Grange.

Pomona Grange held a special all-day session Wednesday in Grange hall, with a noonday banquet, says the *Sonoma County Farmer*.

In the afternoon Worthy Master Houx instructed Brother A. E. Burnham and Sister Emily Burnham master and secretary of Progressive Grange and Sisters C. H. Butler and Emma B. Trowbridge of Santa Rosa Grange, receiving many compliments from Inspector D. M. Winans for his efficient work.

Pomona Grange has sixty-one membera, and is in very good condition.

Brother G. N. Whitaker of Bennett Valley Grange will read a paper upon "Beneficial Birds" at the next regular meeting of Pomona Grange, Wednesday, Oct. 18th.

For the State Grange.

To the Editor:—To the members of the different granges in this State Napa Grange now says, regarding the convening of the State Grange in this city, Oct. 3d to 7th, "Come, for all things are now ready!" General arrangements for holding the meetings and for the welfare of our expected guests have been made, and further details will be completed in ample time.

The convention will meet in the spacious and well appointed I. O. O. F. hall, and the Feast of Sonoma will be celebrated in Turner hall.

The Board of Trade of Napa, ever desirous to entertain visitors from abroad, have made, as representatives of our townsmen, elaborate arrangements for the reception and comfort of delegates. We understand that State Granges have not been received or entertained in an especial manner by the citizens of the places where meetings have been held, but our citizens will prepare an elaborate lunch, to be served by a score of young ladies dressed in white in the new and commodious pavilion in the well shaded city park. Good music will be furnished, and a very enjoyable time guaranteed.

Railroad fares have been fixed from all points at one and one-third rates. Fair prices have been assured by hotels, boarding houses and restaurants, prices ranging from $1.25 to $1.50 per day, room and board; meals from 25c to 50c.

It is hoped that large delegations from every Grange in the State will avail themselves of Napa's hospitality.

R.

Napa, Sept. 25th, '99.

Big Prices for Raisins.

Fresno, Sept. 26.—The directors of the California Raisin Growers' Association held a meeting this afternoon and at the close notified the packers that they had fixed the following as the minimum for standard grades during the coming season: Seedless, 50-pound boxes, 5 cents; two-crown loose Muscatels, 5½ cents; three-crown, 6 cents; four-crown, 6½ cents; London layers, two-crown, $1.50 per box; three-crown, $1.60; four-crown, $2; five-crown, $2.50; six-crown, $3. All prices are f. o. b. at common shipping points in California.

Angora Goats and Persian Sheep at the State Fair.

Fine exhibits of Angora goats were made at the State Fair by Col. C. P. Bailey and his son, C. E. Bailey, both of San Jose, and they captured all the premiums between them. Csl. Bailey also won the Persian Fat-Tailed Sheep awards.

NEW 20TH CENTURY CREAM SEPARATORS

SEPTEMBER FIRST marked another great advance in centrifugal cream separation with the introduction of the Improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators, possessing increased capacities and still greater efficiency.

NEW STYLES, CAPACITIES AND PRICES.

Old Style "Hollow-Bowl" Baby No. 1,	150 lbs.,	$50.00
Old Style "Strap" Humming-Bird,	175 lbs.,	50.00
Improved "Crank" Humming-Bird,	225 lbs.,	65.00
Improved Iron-Stool Baby No. 1,	325 lbs.,	100.00
Improved Iron-Stool Baby No. 2,	450 lbs.,	125.00
Improved High-Frame Baby No. 2,	450 lbs.,	125.00
Improved High-Frame Baby No. 3,	850 lbs.,	200.00
Improved Dairy Steam-Turbine,	850 lbs.,	225.00

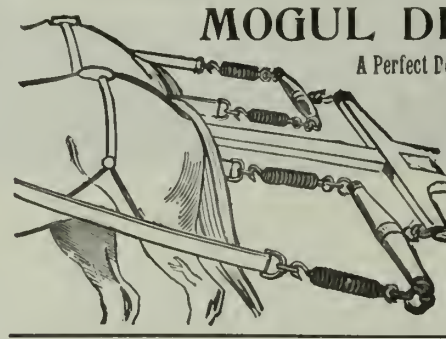
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300 HEAD, REPRESENTING ALL THE PROMINENT STRAINS OF THE BREED, WILL COMPETE FOR $8,000.00 IN PRIZES.



300 HEAD, REPRESENTATIVES OF 60 DIFFERENT HERDS FROM ALL PARTS OF THE COUNTRY, WILL BE SOLD BY AUCTION.

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Kansas City Horse Show will be held same week.

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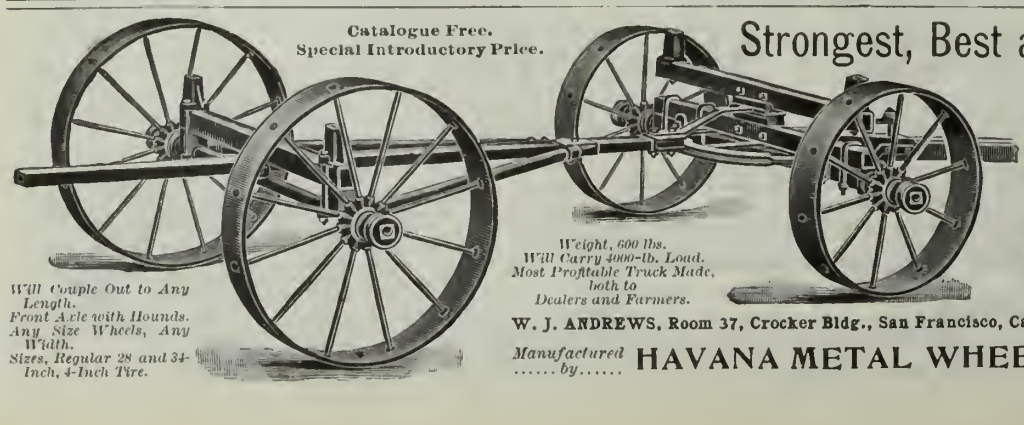
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All Steel Except Tongue and Coupling Pole.

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Will Couple Out to Any Length. Front Axle with Hounds. Any Size Wheels, Any Width. Sizes, Regular 28 and 34-Inch, 4-Inch Tire.

Weight, 600 lbs. Will Carry 4000-lb. Load. Most Profitable Truck Made, both to Dealers and Farmers.

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Samples of cement used in the antique water conduits about Ephesus and Smyrna were recently subjected to chemical analysis and the various samples were found to be quite similar in composition. The water works from which the samples of cement were taken were constructed from a period several centuries before Christ to 300 years after. The chief constituent of the samples was carbonate of lime, but mixed with it was from 2% to 8% of organic material. This was ascertained to consist of a mixture of fatty acids. Experiments were made with a cement consisting of burned lime and olive or linseed oil, but it was not found to be permanent. On the other hand, a mixture of two-thirds air-slaked lime and one-third olive oil hardened readily, and possessed great endurance, leading to the belief that this was the composition of the ancient cements which were analyzed.—Railway and Engineering Review.

To the Fruit Growers and Farmers of the Pacific Coast.

We wish to call your attention to the advertisement in this issue of the All Steel Handy Wagon manufactured by the Havana Metal Wheel Co. of Havana, Ill. These wagons, or trucks, have been thoroughly tested all through the East and have been found to fill a long-felt want. Being low down they are handy to load, saving those high lifts that are so trying on the farmers' backs, and being constructed of steel they do not rot or dry out, but will stand every kind of weather. Write to W. J. Andrews, General Agent, Room 37, Crocker Building, San Francisco, Cal., for catalogue. *

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LUCAS COUNTY, }

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Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1886.

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Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

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Sold by Druggists, 75c.
Hall's Family Pills are the best.

"Week by week did she drudge and toil.
And stew and pickle and roast and boil,
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It is to lighten this load of the American housekeeper, who too often

Feels, of course, that her life is lost
Nohly in saving a servant's coet,

that Marion Harland has written her third volume on Household Management. Read it. It costs nothing when you avail yourself of our premium offer.

CHICAGO, ILL., April 3, 1891.

Dr. S. A. Tuttle, Boston, Mass., Dear Sir.—Having tested your Elixir for the different purposes for which you recommend it, would say: We use it on all horses in our department, and I must state that I have not found one instance where I have not received more benefits than advertised. We adopted it in our whole department. Men as well as horses are using it, and I can not speak in terms of too high praise of it, as I never saw its equal. Yours very truly,

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Farmers are beginning to realize that practically all of the fertilizing value of milk is in the skim milk, and none of it in the cream. To keep the skim milk at home use a **Safety Hand Separator.** This skim milk is worth 22 cents a 100 pounds for feed. Better save it. This plan saves all the fertility on the farm. You can't afford to sell your fertility. Catalogue No. 31, free.

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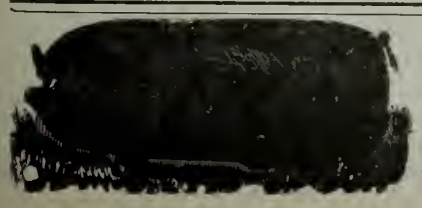




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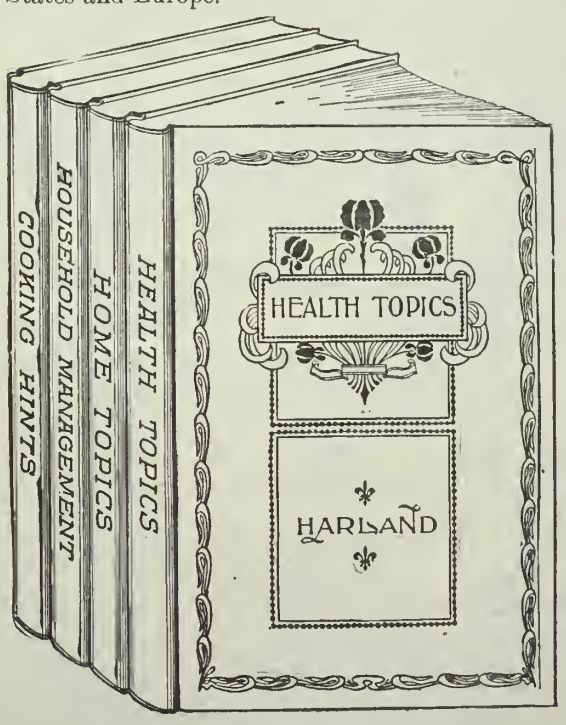
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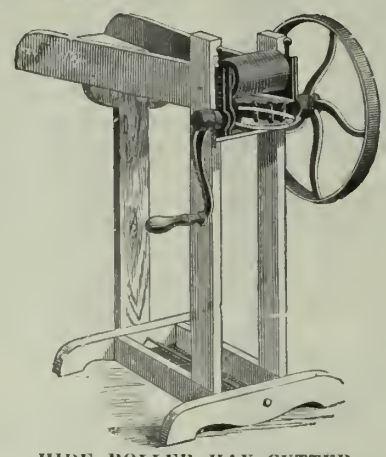
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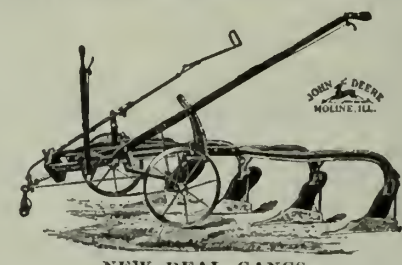


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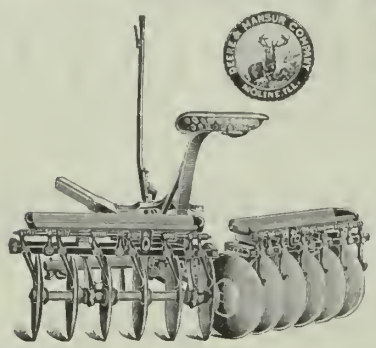
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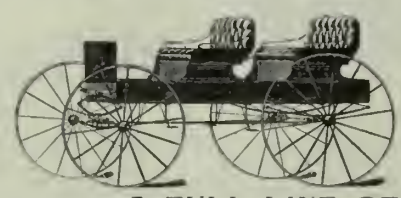
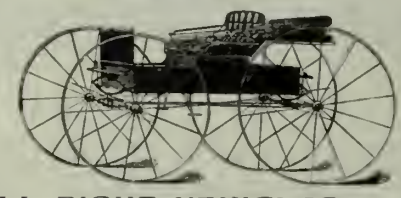
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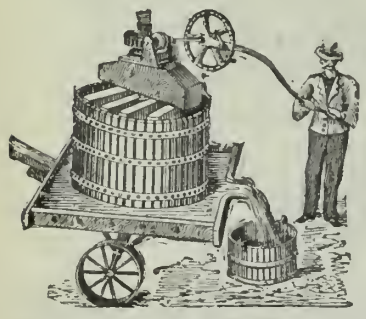
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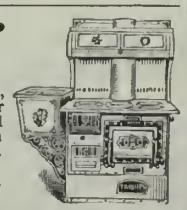
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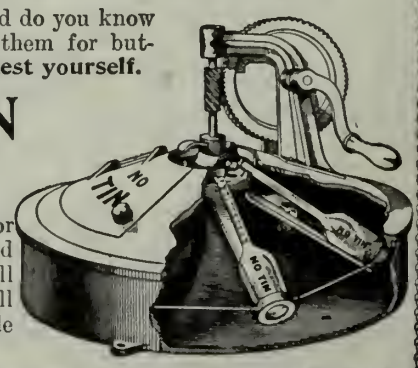
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Vol. LVIII. No. 15. SAN FRANCISCO, SATURDAY, OCTOBER 7, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

The Gardening Year.

We publish upon another page a plain and detailed account of what a California girl did in her garden. We hope the record will be carefully studied, for it not only furnishes valuable suggestions about times and ways of doing things in California but it also demonstrates that a small piece of land, if intelligently and energetically handled by one who loves the work, may yield the family a large and unceasing supply of the most delicious vegetables. We wish to emphasize a few of the points which this creditable accomplishment suggests.

First, the time to begin garden work is in the autumn—even earlier in the fall than the present date—but this year just as soon as possible. Any small piece of land, which can now be thoroughly soaked with water, will yield a fine lot of salads and relishes by Thanksgiving, and after that, in all except very frosty places, will yield a line of hardy legumes and roots all winter. Even when the rains are late, as they seem to be this year, there is still time to plant hardy vegetables and prepare for winter supply without irrigation water. The greatest of all mistakes in California valleys is to allow the autumn warmth to go unused and then go in with a great rush for a short run of spring growth by postponing all garden work until February. Begin at once and turn these delightful autumn days tc some account in the garden.

Another suggestion is of how much can be accomplished by the young people and how great their interest will be if they are substantially encouraged. The parent can certainly afford to pay the young people as much as he pays the peddler for the home supply of vegetables, and if he will make that contract with the young people he will get more delicious food for the home table and will send the youngsters to a school in practical gardening where they will learn rapidly lessons which will be of value to them as long as they live. Many a future business opportunity will be discerned if the young people learn how to handle the soil on an intensive policy for home supply. Make it interesting to the young people: start them up in a little business of their own and they will not find it dull and irksome. What they can hope to make if they have a mild winter climate and a water supply and a will to work can be seen by what Miss Bates did at Santa Barbara.

Another point is of importance to many and that is the increased health and strength which are secured by outdoor employment which is interesting and pleasant. There are many of our young people who are in need of just such a tonic as California fresh air and sunshine afford. Their school tasks should either be lightened or laid aside for a time until they recoup their physical strength. To get the best results from the open air one should be busy in it. Of course, overexertion and unwise exposure should be guarded against, but too great fussiness should not prevail in this regulation. Bright warm air can be taken in large doses and increasing doses as the system becomes accustomed to it, until after a while a delicate child can do almost anything in the open air, not only without danger but with increasing benefit. It is a good time, both for the earnest youngster and for the anxious parent, to take these things into account.



ENTRANCE TO TIMBER-LINED TUNNEL ON THE MERCED CANAL.

Canal Construction.

In the Pacific Rural Press of September 16 we gave some illustrations of the headworks of the great Merced canal and some facts of the history of the enterprise. As one of the large enterprises for water distribution, a few more details from the report of Mr. Grunsky to the U. S. Geological Survey may be of interest. One of the features of the work is a large tunnel which, owing to the nature of the soil traversed, had to be turned into a subterranean flume. When the canal reached a point eight miles north of Merced it was taken through a spur of the foothills in a timber-lined tunnel 20 feet wide, 13 feet high and 2100 feet long, with a total fall of about 5 feet. Tunnel frames are constructed of timbers, 12x14 inches, 4 feet apart. Lagging and flooring are 3 inches thick, all redwood. Tunnel lining required over 1,000,000 feet of timber, and it alone is said to have cost about $30,000. Mr. Grunsky thinks it is extremely doubtful whether the reduction of a few miles in the length of the canal could justify its construction, even if it had been found to require no lining. The total cost of the tunnel was about $70,000. It was completed in about six months. The other engraving shows a scene on the main canal near its exit from the diversion works at the dam. It shows one thing which is characteristic of the canal through portions of its course and that it traversed much distance through a soft sandstone or a cemented gravel which allows a nearly vertical bank. At the place shown the canal is about 60 feet wide and it has a fall of about 1 foot to the mile, except at the tunnels. One of the rock tunnels has a fall of 10 feet to the mile and the lined tunnel shown in the upper engraving has half that fall.



SCENE ON THE MERCED OR CROCKER-HUFFMAN CANAL NEAR HEAD, LOOKING DOWN STREAM.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, October 7, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Heat and smoke from forest fires continue to make themselves rather oppressive and preparing for the delights of an early rain, which need not be much longer delayed. It is true that there is still late fruit to gather and in some central coast valleys there is a vast amount of barley still unthreshed, and clear days are still valuable. It is hardly likely, however, that rain will be much longer delayed, though there is at present no visible signs of its approach, except that showers have occurred at points on the upper coast line of the State. Some injury is reported to the grape crop from the great heat and the wine crop may thus be somewhat further reduced, but it is impossible at the moment to measure such injury.

Wheat has behaved much as we apprehended in previous comments. In sympathy with distant conditions, speculation has been more active and future values advanced. Just at the same time, also, there has come in a large fleet of wheat ships and abundant avenue for shipping has been opened. About fifty ships have recently come into port and twelve came in a single day. This materially helps the situation both for wheat and barley—for the latter is still sought for export—one ship taking 3000 tons this week. Rye is a little higher but the trade is small. Corn and oats are unchanged. Hay is rushing in to escape the expected rain and such large quantities of low and medium grades have been hard to dispose of. It has, however, been taken at low prices and goes out of sight as well as could be expected. Millstuffs are firm without change; supplies are light as few mills are running. Fresh beef and veal are somewhat easier; mutton and pork is steady, about enough being received for present use without packing. Butter and eggs are in the same shape as before; choice fresh being scarce and selling well in the face of large supplies of common stored goods. The dried fruit market is very active and the movement free. Prices are not materially changed as yet. It is reported that almonds and walnuts are largely sold already though the latter are only now being gathered. Potatoes are firmer and slightly advanced and onions just the opposite. Free fall wool is selling but defective wools are still waiting for trade.

California at the Paris Exposition.

We hear from time to time gossip about the preparations for the representation of California at the Paris Exposition, which indicates that the Old World will have a sight of many things that will suggest to them the resources and industrial development of this State. We are glad of the activity of those who have undertaken things in this line, because it seems to us of exceptional importance that California should build widely and strongly upon the prominence which the State is now gaining in the eyes of the world. In the older time our chief display was made to invite investment and settlement from abroad. This purpose still remains, for there are good lands for sale and localities for home-making quite as good, and, in some cases, perhaps better than those which have now reached high development, still await improvement. We seem also to have reached a condition of growth in which a larger supply of earnest, faithful laborers is needed. There was a scarcity of help in the fields, orchards and canneries last summer, and the activity in all country and town industries seems to indicate a good demand for the right sort of wage-earners in the immediate future. To attract the attention, then, of more home owners and those who wish to speed their home-owning by preliminary labor for others, California has a general interest in the display in Paris and the California talk which will come to the ears of thousands of Europeans who may not see the display itself. We need this, also, for the sake of impressing the citizens of our own eastern States who will flock to Paris next summer, and will there see how California compares with the whole world in the lines in which we compete with all the world.

But there is another motive for the fine California displays which we believe will be made. We are no longer a country of vast undeveloped resources. We are making large strides in their development and have great products to sell. This was beginning to be appreciated when New Orleans held her World's Fair in 1885, and the results of our display there were very good. A fuller realization of an opportunity to promote our selling interests was had in preparation for the Columbian Exposition of 1893, and that effort proved a most effective stimulus to distant trade in California products. Hamburg then gave our enterprising people an idea of the profits which might follow a successful invasion of Europe, while Omaha further advanced our hold upon the central regions of our own country. Other expositions were utilized, like, for instance that at Atlanta, and we believe that every effort in the line of showing our products has repaid the cost and trouble by the thousand-fold.

And now comes the Paris Exposition as the greatest opportunity for extending the knowledge of the desirability of our food products which has arisen since we secured large surpluses to place upon foreign markets. Twenty years ago no one had any idea that California could enter European trade with the articles which are now winning large patronage there. We knew that our wheat was in request and we hoped that our wine would be, but to claim that we could invade France with prunes and Germany with long lines of dried fruits, England with fresh apples and pears, and the whole of Europe with canned and dried fruits and raisins, would have won the claimant a reputation for dreaming. Still all these things are now seen to be feasible and what has been done thus far is apparently but the faintest exponent of what can be profitably done. For these reasons California does not go to Paris merely as a solicitor for popularity and population but as a great producing country whose varied products defy competition and invite trade. It is fortunate that the opportunity is to be embraced and we hope that all sincere efforts to this direction will succeed.

We understand that several public and private organizations are advancing very rapidly and satisfactorily in their preparation of the California exhibits for the Paris Exposition. The State Commission has headquarters in this city and is employing a number of experienced people in collecting and arranging material for shipment. They are also preparing expository matter for publication, and the world will gaze upon an array of maps and photographs and pocket pertinent publications for more leisurely contemplation. The Southern Pacific Company, under the direction of W. H. Mills, who has exceptional ability in such undertakings, is making large expenditures for representative materials of all kinds, and is also preparing for very creditable publications to be widely distributed at Paris. Various local organizations are valuably assisting in these collective efforts, and California promises to be prominent in more lines of display than could be readily enumerated.

Another important avenue through which California will reach the world's eye on that occasion lies in the United States Government exhibit, which will be installed in a building which will be a credit to the nation. The various departments at Washington are securing much California material. The Department of Agriculture is co-operating with the University Experiment Station at Berkeley in securing systematic display of materials, methods and the like which appeal to the scientific student at the Exposition. Other sciences will also be strikingly shown. There is reason to believe that California will pull nearly all lines of interest and popularity at Paris, and thus be in the world as she has never been hitherto.

Several San Jose fruit growers have pooled their dried fruit and are holding it in the form of a copartnership in business under the firm and style of the Santa Clara County Fruit Union, the partnership to commence Sept. 24, 1899, and to continue for twelve months next ensuing, then fully to be completed and ended. The San Jose papers say that last week about 1000 tons of fruit had already been signed in the deal, and almost that amount in addition had been pledged. It is estimated that the Union cannot handle to exceed 3000 tons, on account of the limit to the storage capacity they had leased. The signers agree to elect five directors, and the directors to elect a manager, etc. This is, in form at least, something a little different from previous cooperative efforts to fix prices and share returns.

Dr. Benjamin Ide Wheeler, the newly elected President of the University of California, has arrived in Berkeley and taken his place at the helm of that institution. Dr. Wheeler is being very cordially received and the fullest confidence is expressed in a notable success for him in the work he has undertaken. His record in Cornell University as teacher and as a strong and valuable man augurs his value in California, and he is expected to pursue a progressive and aggressive policy which will foster and promote the University in all its important interests and public services. We expect that President Wheeler will take a leading place in the public life of California and be as highly honored and esteemed in the future as he is now warmly welcomed.

It seems that your chattel mortgage on a flock of sheep does not include the wool clip unless so agreed. A man gave a chattel mortgage on a herd of sheep in Kern county, the mortgage to cover "the increase thereof." The mortgagor sheared the sheep, and the mortgagee claimed the wool. Suit was brought for its recovery, but the lower court ruled against the mortgagee. The Supreme Court, in affirming the judgment, has laid down the law that the "increase" of a herd of sheep or cattle, or other domestic animals, means the young of such animals, and cannot apply to the wool in question any more than the chattel mortgage of a dairy would cover the butter and cheese to be hereafter produced.

Consul Byington writes from Naples, August 1, 1899, that there will be a shortage of fully one-third in the walnut crop, as compared with last year's product; but the quality promises to be superlor to the average of several previous years. Two-thirds of the crop, which will commence to be shipped from Naples about the first of October, it is expected, will go direct to New York and the remaining third to Liverpool and London.

The demand for American apples in Great Britain and other parts of Europe has been very large, and exports during the past year were 1,217,767 barrels. They exceeded the exports of the previous year by 461,355 barrels. By far the greater part went to Great Britain, only 24,521 barrels having gone to Hamburg and 58,710 to other European countries.

QUERIES AND REPLIES.

Polled Angus Stock.

To the Editor:—Where can I find polled Angus bulls in California? Your advertising columns formerly had announcements; of late I see none. No exhibit of that stock was made this year. On my range in Tulare county I have for several years kept a thoroughbred bull with the small herd of common cows with satisfactory results; I want a change.—Stephen G. Nye, Oakland.

Judge Nye ought not to be put in this plight. Our advertising columns ought to be used by breeders continually to keep their stock before the public all the time. This is the only way to create a demand and to keep it increasing. Let any one who has good stock write to Judge Nye and then if the reader who makes a good sale does not advertise after that we will never give him another chance.

Alfalfa Among Fruit Trees.

To the Editor:—My house yard has been planted to fruit trees, now three years old. It is my intention to sow alfalfa in the yard also, leaving a space around each tree for mulch or stable manure, not letting the alfalfa come nearer than 2 feet from the tree. What I am anxious to know is, Will the alfalfa be a detriment to the trees, providing both get plenty of water, supplied with a garden hose?—Reader, Sacramento valley.

There is no objection to your growing alfalfa among your fruit trees in your house yard, providing the soil is deep and rich enough and you take particular care to furnish water sufficient for both the alfalfa and the trees. Alfalfa quickly ruins trees if both are planted together on land that is not sufficiently moist. On the other hand, the practice of growing alfalfa in orchards is found to be very desirable in some parts of Arizona, because the presence of alfalfa tends to reduce the soil temperature and to prevent the reflection of the heat from the soil upon the foliage of the trees. Alfalfa is also grown among orchard trees in some of the higher regions of California where moisture is always present. If you carefully observe the conditions which are necessary for the success of both growths you need not hesitate to embark upon the plan which you have in mind.

Resurrecting Dried Fruit.

To the Editor:—Please tell me how to prevent evaporated pears from molding, and what to do with them after the growth of the fungus has begun. We dried some until they were almost hard, then put them in barrels and let them stand about two weeks; after which they were changed to other barrels and left three weeks longer, when they were found to be moldy.—Novice, Mendocino county.

The mistake was evidently in packing away the fruit before it had gone through the sweat. It should have been sweated and aired before packing. The only thing that we can suggest as a possible improvement of the pears in their present condition would be to moisten them very slightly and subject them to the fumes of sulphur. This will kill the germs of the mold and restore the color, so far as it can be done. They should be then dried quite thoroughly before packing. We doubt if it will be possible to bring them back into good condition, however.

The Morris Red Apple.

To the Editor:—I was pleased to note your reference to the apples I sent, but I wish to make a slight correction. The Morris Red is earlier than its parent, the Jonathan, instead of later; you doubtless compared it with Jonathans from some early locality. One of the best points about the Morris Red is its fine, crisp flavor, although if you have kept the samples I sent till now, they are, doubtless, too mellow to be good, as its not being a late keeper seems to be its only drawback.—P. J. True, Forestville.

These comments are correct. We have since found out by the samples that Morris Red has to be used while in its best season. It ought, however, to have a field while in good condition.

A Seedling Cling Peach.

To the Editor:—I send five cling peaches taken from seedling tree, which grew from a stone planted by my little boy four or five years ago in my garden. They appear to me to be very nice, but whether worthy of especial consideration I am not horticulturist enough to know. I would be pleased to receive your opinion of them.—Subscriber, Sonoma county.

We are glad to have an opportunity of seeing the peaches which you send. They are very handsome and from exterior points might be quite desirable. There are interior points, however, which are against them: The pit is too large, and the amount of red coloring around the pit extends so far into the flesh that it would make them unsuitable for canning, and would even tend to give the dried fruit too dark a color. For these reasons we doubt if the variety would be worthy of propagation, as there are so many good peaches which are not open to these objections.

Bleaching Almonds.

To the Editor:—In the Pacific Rural Press of August 26th you give a formula for bleaching walnuts; is that good for almonds? If so, what kind of vessel is best? Should almonds be ripe-dry before treating?—Reader, Orosi.

The formula for bleaching walnuts might be used for the treatment of almonds when they are badly stained by early rains or something of that sort. Ordinarily, however, sulphuring is the best treatment for almonds as it gives them the peculiar yellowish appearance which is acceptable to the market. If you have almonds on which the sulphuring does not seem to work satisfactorily, then try the other, exposing the nuts to the liquid for as short a time as possible. In sulphuring, the almonds should be thoroughly dry before exposing to the sulphur fumes, then spray lightly so as to only moisten the outside and sulphur at once. In using the walnut dip, they can be treated right from the tree.

Lupin Experiments.

To the Editor:—I received from the University a package of lupin seed and think it is the Large Blue lupin. My 20-acre orchard consists of clay and gravel land. I will experiment on both kinds of soil. Please inform me how many seeds I have to put in one hill and how far apart.—Orchardist, San Jose.

In the sowing of the lupins it is hardly desirable to undertake cultivation of them in hills. The prevailing method will probably be to broadcast the seed rather thinly, so that there shall be about one seed to each square foot of surface. The point is to get a thick mat of foliage to plow under and by early sowing one plant to each square foot ought to branch and completely cover the surface. If you desire to plant them so that they can be cultivated it would be better to plant in rows, than in hills, say, dropping seed about 6 inches apart in rows which are about 2 feet apart.

About San Diego County.

To the Editor:—I have thought for some time of going to California and engaging in the cultivation of fruits, nuts, etc. I am interested in a mining property in San Diego county, and have thought of locating somewhere in that county and planting lemons, olives, nuts, alfalfa, etc., combining with it such other lines as would do well together—perhaps that of poultry and hog raising. Will you kindly advise me what fruits, etc., can best be raised in the county named, what parts of it are the best for the ones you name, and perhaps make some suggestions as to what other lines can be handled with profit along with fruit, etc.? I have thought some of getting close to San Diego. The mining property I have mentioned is in the eastern foothills of the county. I have wondered if either the eastern or western foothills, in such places as there is good soil, would be all right for olives. I have heard that they did well on hillsides, etc. I have thought, too, that perhaps the valleys west of the mountains might be well adapted to the purpose that I name and that land there could be bought at a much lower price than nearer the cities. Is it necessary to have the ocean air and moisture to grow good fruit, or would the location just named offer any advantages?—Home-Seeker, Chicago.

It will be easy for you to find locations near San Diego, where you can grow all the fruits and other crops which you mention, and almost everything else you can think of. There is, perhaps, no better place for these lines of varied production than some of the lands near the city of San Diego and in valleys adjacent thereto. You have to be careful to secure satisfactory water supply with the land, and if that is secured almost anything desirable can be produced. It is not necessary to be near the ocean. Some of the interior localities of the county are excellent. Even at an elevation from 1500 to 3000 feet in the eastern foothill country most excellent apples and other hardy fruits are produced, but those altitudes are too frosty for semi-tropical fruits. You will have no difficulty in making a satisfactory selection if you can take the time to do it personally. One incurs very great risk in making investments without personal investigation.

It is reported that there is a movement to restore the old inspection tax on foreign fruits in New York. The Fruit Buyers' Union have adopted a plan which, if successful, will impose a tax of a quarter of a cent per box on Sicily fruit, and 1 cent a barrel on Jamaica oranges for inspection of such fruit on docks. It is claimed by the New York people that the enforcement of such a tax will be of advantage to the California fruit shipped to that point.

Luther Burbank of Santa Rosa has received a box of coffee seed from Central America and will proceed to grow coffee seedlings with an idea of securing varieties with new and desirable characters. He will of course have to work under glass at Santa Rosa and the proposition is very interesting.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Oct. 2, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has been somewhat lower than during the preceding week, though several degrees above the normal, except on the immediate coast. Heavy fogs have been frequent in the coast regions, and light showers occurred in Humboldt county. Conditions continued favorable for raisin curing and fruit drying, and the crops are mostly under shelter. The second crop of grapes is being gathered and shipped to the wineries in considerable quantities; the yield is not as large as had been expected in many instances. Figs and some varieties of late deciduous fruits are being gathered and dried. There is still a good prospect for a large yield of citrus fruits, but conditions would be much improved by early rains. A fair crop of walnuts has been gathered; the nuts are of excellent quality. An average crop of corn is being harvested. Hop picking and baling are nearly completed. Tomatoes of good quality are abundant. Orchardists will soon commence pruning, and farmers are making preparations for plowing and seeding. Pasturage is very short in some localities, and cattle are being driven to new ranges.

Forest fires in the mountain regions are causing some damage to timber.

Sacramento Valley.

High temperatures continued through the week, and conditions were favorable for fruit drying. Late deciduous fruits ripened rapidly and are now being gathered. The yield of peaches, pears, prunes and grapes is very good. Dried fruits are being taken from the trays and sacked. The prospect for large crops of oranges and olives continues good, but would be greatly improved by rain, as the soil is becoming very dry. Orchardists will soon commence pruning. Mountain fires are causing heavy smoke in portion of the valley.

Coast and Bay Sections.

Grapes are being gathered and wine making continues. The yield is generally above the average, and the quality superior. Prune drying is nearly completed. Apples are plentiful. Hop picking is completed in most sections; the hops are of excellent quality, and the yield is large. There is a large crop of tomatoes in some localities. Corn is being harvested; the yield is about average. Forest fires in the mountains have been causing much damage to timber, and the air has been rendered oppressive by heat and smoke.

San Joaquin Valley.

The weather has been slightly cooler than during the preceding week, but conditions continued favorable for raisin curing, which progressed rapidly; a large percentage of the first crop is in the sweat boxes. The second crop of grapes is being picked and shipped to wineries. Figs and prunes are yielding good crops. Citrus fruits would be benefited by rain. A large crop of sweet potatoes has been gathered and sent to market. The last crop of alfalfa is being harvested. Farmers are preparing for early plowing. In some sections stock is being moved to new ranges, owing to short pasturage.

Southern California.

In most sections the temperature has continued above normal, with frequent heavy fogs in the mornings. Raisin curing is progressing, though retarded in some localities by unfavorable conditions; the yield is about average. Wine making continues. Late deciduous fruits are ripening slowly. Citrus fruits are still in fair condition, though needing rain in some orchards. Walnuts are being gathered, and shipments will begin soon. Tomatoes, celery and garden vegetables are doing well.

Eureka Summary.—Warm weather in the interior is drying vegetation; pasturage is getting short. Prune drying is nearly completed; crop heavy; quality good. Extra fine apples are being marketed.

Los Angeles Summary.—Cooler weather with fogs retarded ripening of late peaches, fruit drying and raisin making. Walnuts are dropping; fair yield, good size nuts. Some dry plowing being done.

The following data for the week ending 5 A. M. Wednesday, October 4, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Year to Same Date.....	Average seasonal Rainfall to Date.....	Maximum Temperature for the Week.....	Minimum Temperature for the Week.....
Eureka.....	.14	1.29	2.67	1.49	46	76
Red Bluff.....	.00	.02	.76	.78	60	102
Sacramento.....	.00	.02	.70	.43	54	92
San Francisco.....	.00	T	1.30	.49	50	85
Fresno.....	.00	.00	1.15	.39	46	96
Independence.....	.07	.00	.31	.18	44	92
San Luis Obispo....	.00	00	.22	.23	44	92
Los Angeles.....	.00	.02	.09	.25	54	82
San Diego.....	.00	.06	.07	.17	60	68
Yuma.....	.02	.08	.00	.72	66	104

FLORIST AND GARDENER.

What a California Girl Did in Her Garden.

Miss Annie Eliza Bates of Santa Barbara has set an example of what a young lady can do in vegetable gardening in California, which is worthy of the widest emulation. She has demonstrated that she can in a year's time produce on less than one-eighth of an acre of land $66.45 worth of vegetables, rating them at their retail value and deducting from the total all cost of seeds and other materials, and the cost of all labor except her own. She has a net result of $52.50 for her season's effort. We are sure our readers will be pleased to see the portrait of a young Californian who has done this, and to have the minute record which she kept of her operations which we give below:



Annie Eliza Bates of Santa Barbara.

To the Editor:—Mission canyon is north of Santa Barbara and my garden is at the head of it, distant from town about four miles. It is 1500 feet above the level of the sea and in the frostless belt and has an abundance of water and rich soil. My garden is 50x100 feet—the rows lengthwise, 100 feet long. The following is my diary of garden operations from October 10, 1898, to August 30, 1899. Wherever the temperature is given it must be understood as in the shade:

1898—Oct. 10: Hired a man to plow and manure the garden, set posts and wire; my father furnished the wire for the fence; weather very fine; worked all day.

Oct. 11: Irrigated the garden grounds all day and gave it a thorough soaking; ther. 84°.

Oct. 12: Raked over the garden ground and made preparation for planting; worked half the day.

Oct. 13: Planted nineteen rows of Red Kidney beans 30 inches apart and rather thick, so as to be a support in windy weather; worked all day; ther. 87°.

Oct. 14: Planted thirteen rows of American Wonder peas between the rows of beans, also sowed one row of radish seed the full length and between the beans, and one row of lettuce seed ditto; worked all day; ther. 91°.

Oct. 15: Planted one row of Early Rose potatoes, one row of beet seed, one row of onion sets, one row of cauliflower—four dozen plants between the beans, and Scarlet Runner beans all around the fence inside; worked half a day myself and paid hired man 75 cents for half a day; ther. 91°.

Oct. 16: Weather foggy.

Oct. 17: Weather fine and hot; ther. 80°.

Oct. 20: Threatening rain; ther. 78°.

Oct. 22: Raining.

Oct. 29: Appearance of rain; ther. 74°.

Nov. 1: Windy.

Nov. 4: Irrigating garden; worked four hours; ther. 86°.

Nov. 7: Gathered weeds out of garden two hours; ther. 80°.

Nov. 10: Hoed beans two hours; ther. 76.

Nov. 12: Finished hoeing beans, three and a half hours' work; ther. 80.

Nov. 14: Sprayed sulphur dust on the beans to prevent mildew; worked two hours; ther. 82°.

Nov. 16: Irrigated garden; weather cool and dry; worked three hours; wind east; ther. 62°.

Nov. 24: Thanksgiving Day — radishes, lettuce and tomatoes on the table supplied from my garden; ther. 68°.

Nov. 25: Worked in garden half an hour; ther. 74°.

Nov. 28: Gathered vegetables and did some weeding; one hour's work; ther. 75°.

Dec. 1: Irrigated part of garden; worked half a day; ther. 86°.

Dec. 2: Completed irrigating garden and gathered vegetables; worked half a day; ther. 85°.

Dec. 5: Gathered vegetables, etc.; one hour's work; ther. 85°.

Dec. 9: Gathered vegetables; worked one hour.

Dec. 14: Rained ¾ of an inch.

Dec. 16: Gathered vegetables; worked all day; weather sultry.

Dec. 23: Gathered vegetables; worked all day; weather sultry.

Dec. 26: Gathered vegetables half a day; weather windy and cool.

1899—Jan. 2: Rained 1 inch.

Jan. 3: Very cold, with northeast wind blowing; gathered vegetables all day and sowed one bed of radishes.

Jan. 10: Raining heavy with some hail.

Jan. 11: Rain ceased at noon; fall exceeded 3 inches.

Jan. 12: Gathered vegetables; worked half a day; cloudy weather.

Jan. 16: Gathered vegetables one hour and a half and sowed one bed of lettuce.

Jan. 25: Pulled up all pea vines and my father paid me 50 cents for them to feed to stock, also gathered remainder of beets, onions and cauliflowers; the pea vines were full of bloom and young peas, but I gathered them in order to have my produce from a second crop in the market early and be able to harvest three crops; worked three-fourths of the day.

Jan. 26: Hired a man to spade ground where the gathered vegetables have been growing; one day's work, paid $1 50.

Jan. 27: Planted seventeen rows of black wax beans in place of removed pea vines, etc., and also planted Mammoth sugar corn on the same rows of beans and 2 feet apart; worked three-fourths of a day.

Jan. 31: Gathered all the beans large enough to sell and dug all the potatoes; worked half a day.

Feb. 1: Hired a man to spade the garden where the beans grew, etc.; paid $1.50 for one day's labor.

Feb. 2: Planted eighteen rows of American Wonder peas where beans had been grown; worked all day; light rain at night.

Feb. 6: Cold.

Feb. 23: Irrigated garden; worked half a day.

March 2: Hoed half a day.

March 4: Hoed beans, etc., half a day.

March 6: Sowed radish and lettuce seed and cucumbers; worked two hours.

March 15, 20, 24 and 31: Raining.

April 3: Hoed beans two hours.

April 7: Worked in garden one hour and gathered vegetables; ther. 86°.

April 10: Irrigated garden; worked half a day.

April 11: Finished irrigating garden; worked three hours; ther. 85°.

April 21: Very hot; ther. 89°; gathered vegetables half a day.

April 28: Gathered vegetables for five hours.

May 4: Windy weather; worked in garden two hours gathering vegetables.

May 12: Gathered vegetables four hours.

May 19: Gathered all the marketable beans and peas, and pulled up all vines and sold for 50 cents; had hired man spade the ground all day for another crop; worked myself half a day and paid $1.50 to man.

May 20: Irrigated garden all day, thoroughly soaked it.

May 22: Hired man and myself worked all day; planted black wax beans, radishes and lettuce; paid man $1.50.

May 30: Worked in garden one hour gathering vegetables; light rain fell in the evening—¼ inch.

June 6: Light rain to-day—.14 inch fell.

June 9: Worked half an hour gathering vegetables.

June 10: Irrigated garden; worked six hours.

June 13: Worked in garden four hours gathering weeds and hoeing.

June 20: Hoed beans and gathered vegetables four hours; ther. 79°.

June 24: Worked in garden half an hour gathering vegetables.

June 30: Irrigated radish and lettuce beds and gathered some vegetables; worked one hour.

July 7: Gathered vegetables; worked two hours.

July 14: Gathered vegetables half an hour.

July 21: Gathered all the cornstalks and fodder and sold to my father for 75 cents; also gathered vegetables; worked two hours.

July 26: Worked half an hour gathering vegetables.

July 28: Gathered vegetables; worked half an hour.

Aug. 1: Irrigated all the garden; worked eight hours.

Aug. 4: Gathered vegetables two hours.

Aug. 11: Gathered vegetables two hours.

Aug. 18: Gathered vegetables half a day.

Aug. 19: Irrigated garden; worked half a day.

Aug. 21: Gathered vegetables; worked half an hour.

Aug. 25: Gathered vegetables; worked three hours.

Aug. 30: Gathered vegetables; worked half a day.

SUMMARY OF SALES AND EXPENDITURES.

RECEIPTS.

Beans, first crop	65	pounds	$ 8 49
Beans, second crop	90	pounds	9 20
Beans, third crop	173	pounds	8 06
Peas, first crop	55½	pounds	4 96
Peas, second crop	123	pounds	5 52
Scarlet runners	79	pounds	5 54
Tomatoes	20¾	pounds	1 05
Lettuce	70	bunches	3 50
Beets, beet plants and beet tops			1 25
Cauliflowers	37		3 40
Young green onions	19	bunches	95
Cucumbers	158		1 47
Radishes	85	bunches	4 25
Potatoes	32	pounds	1 28
Sugar corn	75	dozen	7 53
Total			$66 45

EXPENDITURES.

Labor paid for	$ 8 25
Seeds, sets and plants	5 70
	13 95
Profit	$52 50

Amount of labor done by myself, 235½ hours, equal to 29 days 3 hours and 30 min. at the rate of 8 hours to the day.

I may never again have such a delightful winter to work in, for, with the exception of a very few days, the weather was much warmer than in the past summer.

I would not again attempt to raise three crops of beans and peas, as two crops would produce more, if left long enough, than three plantings that have been pulled up before they brought a full crop and I should save labor and seed.

Santa Barbara. Annie Eliza Bates.

Potato Culture.

By Z. Quincey of Ballena at the University Farmers' Institute at Julian.

The potato, being a native of America, is universally cultivated from Maine to California and is a staple article of diet found upon the table of the rich as well as the poor. The annual value of the crop of the United States is about $100,000,000. Yields of 250 to 300 bushels per acre are frequently obtained, and a few records of over 500 bushels per acre have been made, but the average yield is less than 100 bushels per acre.

Soil.—The potato, being grown in every State of the Union, is consequently grown on a variety of soils, but we believe the best soil for this crop should be a rich rather sandy loam well supplied with nitrogen and potash, for, according to chemical analysis, the tubers contain nitrogen, phosphoric acid and potash. The soil should be light so as to offer no resistance to the enlargement of the tubers; moist, but not too wet, for fear of decaying either seed or the crop. When matured, other and harder soils may be made quite suitable by being well fertilized, or by turning under any good green crop, such as alfilerilla, alfalfa, etc. If barnyard fertilizer is used, it is better to plant to such crops as grain and corn the season previous to planting potatoes or the tubers will be scabby or knotty. Almost any new land is suitable, providing it is well tilled previous to planting and not too wet or subject to drouth. Potatoes should never be planted more than two years in succession on the same ground unless extremely fertilized and then there is danger from fungus diseases, especially scab.

Preparation. — From practical experience the ground cannot be plowed too deep nor too often unless there is a clay subsoil and too much of that is brought to the surface. I use a 16-inch sulky and plow the land at least 10 inches deep the first time, harrow well until the surface is very mellow, let it lay about three weeks or one month, then plow a little deeper again, harrow until all the clods disappear and the ground is thoroughly pulverized and when ready to plant harrow once or twice more, then lay your ground off with a plow, plowing to a depth of 3 inches for Early Rose and other early varieties, and from 4 to 6 inches for the later varieties.

Seed.—We have experimented with whole, halves and small sets and find that one will grow as well as the other; the roots of a young potato plant grow not directly from the seed set, but from the underground joints or nodes of the stem. A set with from one to two eyes will yield more saleable tubers than will those from whole tubers or halves. While the two latter will yield a larger number to the hill, the whole sets have more small unsaleable potatoes than the halves. We do not find any material difference whether the sets are freshly cut or have laid a few days previous to planting, unless planted on very wet soil, then they should be cut long enough to wilt some, there being less danger of decaying.

Planting.—The rows I lay off 3 to 3½ feet apart and drop the sets from 10 inches to 1 foot apart, believing by planting that close, when nearly grown the tops form a dense foliage nearly covering the ground, preventing too rapid evaporation of moisture from the soil or the sun from burning the tubers, hence retarding decay.

Cultivation.—After the potatoes are planted turn the furrow back and harrow well; about three weeks after harrow again to kill all weeds, and as soon as you can follow the rows cultivate lightly if the soil be light, if not cultivate deeper and about every two

weeks thereafter until the tubers are from one-half to two-thirds grown, but after the tubers are formed do not cultivate too close to the hill, thereby preventing their maturing.

HORTICULTURE.

Pruning and Thinning Deciduous Fruit.

By J. B. NEFF at the University Farmers' Institute, at Anaheim.

The pruning of deciduous fruit trees begins at the time of planting, and must be practiced continually while the trees live. When apricot trees are planted they should be trimmed to a single stem, and cut off at 18 or 20 inches from the ground. These will throw out shoots vigorously, and frequently two or three shoots from one bud. The shoots must be thinned out, leaving not more than four or five, no two of which should come from one nor be directly opposite.

The first shoot should start 12 inches from the ground, and the others in such a manner as to divide the space and make the branches balance, leaving the top shoot to make the central part of the tree.

First Year.—It will be necessary to go over the trees several times the first year to remove shoots that may start where not wanted, and this is more readily done while the shoots are tender enough to pinch out. No general heading back should be done the first year, as it tends to dwarf the tree, though if some of the limbs are making an overgrowth they should be pinched back.

The pruning for the second year should be done in January, as the trees will not be dormant until then, if they have been kept in a thrifty condition. The first year's growth should be cut back to within 5 or 10 inches of the body of the tree, and all forks should be cut out, even if it necessitates forming a new head, for it is much better to lose some growth on a young tree than to take the risk of splitting down when the tree begins to bear fruit.

When the shoots start for the second year's growth take off all that come out on the under side of the limbs and thin to two or three as may be needed to balance the tree, bearing in mind that the apricot tree always inclines toward the coast breezes.

Second Year.—The second year will require much more attention than the first year, in order to keep off suckers and all lateral growth that may start on the under side of the new limbs, the object being to make the limbs grow as near upright as possible.

The remark on heading back holds good for this year also.

The trees will become dormant earlier the second year than they did the first, but ought not to be trimmed earlier than January, so that the ends of limbs will not be exposed to the drying winds so long before the sap begins to flow, and consequently will heal over better.

The second year's growth should now be cut back to within 15 or 20 inches of the old wood, except the central stem, which may be left 24 to 30 inches long, depending upon the number of laterals it may have thrown out.

When the new shoots have about 6 inches growth they should again be thinned down to two or three leading limbs on each branch, and all taken off that tend to turn down or out at right angles; but do not take off the fruit spurs. The trees will need to be gone over about three times before July to remove suckers and lateral growth that may start on the lower side of the limbs, as the tendency of the third year is to make an immense growth of downward laterals, and these must be taken off so as to develop wood that is to be left for fruit. If the orchard is on good land and has been properly watered and cultivated the trees should now be large enough to begin to yield fruit.

The object in trimming during the first two years and the first half of the third year, has been to grow a vigorous, upright tree with strong limbs, capable of carrying a heavy load of large fruit and to get the fruit as close to the body of the tree as possible.

Third Year.—There will be a few specimens of fruit the third year, and as soon as these are gathered the trees should be summer-pruned for the first time, care being taken that the land shall have been allowed to become moderately dry, so that the trees may be partially dormant. If the downward growth of laterals has been kept cut off, all that remains to be done is to cut off about one-half of this season's growth all over the tree, using the same judgment as before with reference to prevailing winds and symmetry of tree.

The only pruning that will be necessary the following winter will be to take out cross limbs and sprouts that may have been overlooked in the summer.

When the trees come into full bearing they will require but little pruning, though all the long shoots that come out should be cut back as soon as the fruit is gathered, for the fruit on these twigs and slender limbs is always small and exposed to sunburn.

Growing the Peach.—When peach trees are planted they should also be cut back to a single stem, and cut off at 12 inches from the ground, but instead of allowing a trunk to be formed below the branches they should start branches at the ground, as well as along the stem. Particular care should be taken that these branches grow nearly upright, so as to form a thick, self-supporting tree.

The pruning for the second year should be done in January, when about one-half of the last year's growth should be cut off, and the tree thinned so as to make it balance.

The new shoots will start at the base of the limbs that have been cut back, as well as at the point, and those an the base should all come out this year. A good rule with peach trees is to cut off about one-half of the last year's growth for four or five years, and also take out all the wood that has had fruit, for the wood bears fruit but ocne. After that the fruit wood will be getting too far from the body of the tree, and too high for convenient picking. Some of the old limbs should then be cut off close to the ground each year, and new growth allowed to take their place.

Thinning.—Thinning is as important as pruning, and requires as much care, though it requires more courage to pick off the fruit already formed than to cut the branches when bare of leaves and fruit.

The apricot is the first to need thinning. This should be done as soon as it is certain that the fruit has quit dropping and before the seeds begin to harden.

Apricots that are smaller than ten to the pound are not desirable either for canning or drying, and are not profitable to grow.

In order to attain this weight they must measure about 1¾ inches in diameter, and should be thinned to about 2½ inches apart on the branches where the trees are well loaded and have not been thinned by frost. In case of the frost having thinned and left the remaining fruit in bunches, it will not be necessary to thin so closely, merely taking out the small fruit which would not develop.

A tree having a body 3 inches in diameter should carry fifty pounds of fruit, and at ten to the pound this would take 500 apricots to the tree. By counting the apricots on a few trees the operator soon learns when sufficient thinning is done, though the tendency at first is to leave too much fruit on the tree.

Thinning does not materially lessen the weight of the crop which the tree will yield, while it is much better to have 200 pounds of large saleable fruit than 300 pounds of small fruit that can not be sold at any price.

It costs more to prepare the small fruit for market and fully as much to grow it, so that it pays in every way to grow only the best.

Thinning peaches comes about two weeks later than the apricots. These should be thinned in the same general way, except that they should be much farther apart, none being closer than 4 inches of each other.

Peaches are not saleable when less than 1¾ inches in diameter and bring much better prices if none are less than 2½ inches in diameter. This latter size can be as easily attained as the smaller by proper care in thinning.

All thinning should be carefully done by hand and all double fruit taken off. The fruit on the points of the branches should be much further apart than that closer the body of the tree, and in case of small twigs with late blossoms, all should come off, as the fruit will not develop, and if gathered with the other is a positive injury to it.

Profit in the Almond.

By FRANK KNOWLES of Encinitas at the University Farmers' Institute at Oceanside.

Our soil is a red sandy loam. We have no water for irrigation and no frost nor cold winds to speak of. These conditions determined me to give the almond precedence with the olive, and I now wish it had been almond altogether, as results prove that a quicker, better crop can be secured with less risk of unproductive years. I plowed 14 inches deep and set the trees 24 feet apart; 30 feet would have been better. Cultivated with chisels from the first rainfall in winter to April, then put on weed knife and cultivated with that until August, when the leaves begin to fall and nuts began to ripen.

For gathering the crop we use a large canvas under the trees, and knock them off with sticks. We had about 100 pounds from the two-year-old trees—between 700 and 800 of them—about 1000 pounds at three, and this year at four we hope to harvest 3000 to 4000 pounds.

In some localities whole orchards have been destroyed because of unproductiveness, until A. T. Hatch discovered that the trouble lay in imperfect pollenization, and that three varieties at least were necessary to secure it. We have the I X L, Ne Plus Ultra and Nonpariel varieties, and as a consequence the sentiment of this locality has materially changed, and in the near future I expect to see a large proportion of this country, at least on the coast, devoted to almond culture. Blooming as it does in February and March, it has the advantage of every drop of rain, and has begun to mature when they cease, and comparatively free from the danger of frost. That they can be grown without irrigation makes them peculiarly adapted to this locality, where there is none. In using the weed knife in May, June and July, I stir the earth, cut off the weeds to the depth of about 4 inches without turning up any moisture, creating a dust mulch that will not bake and become hard under the hot beams of the sun. I cultivate once a month until August. The pests are comparatively few, the gopher, the squirrel and shot-hole fungus being those I have encountered, but a little care prevents them doing much damage. In that, as in everything else, ceaseless vigilance is the price of success.

This country raises 14,000,000 pounds of almonds annually and imports 7,000,000 pounds. The natural conclusion is that with or without a protective tariff it will be some time before their production ceases to be profitable.

THE POULTRY YARD.

Notes on Roup in Fowls.

As the season for greater prevalence of this dread disease is at hand, readers will be interested in a careful statement about it by Mr. John Barlow, of the Rhode Island Experiment Station, which we outline as follows:

Ravages of the Disease.—The term "roup," as applied to disease in fowls, is scarcely scientific. To what disorder the term was first applied is not known, and the origin of the word itself is uncertain. Future investigation will increase our knowledge on this point, and probably the disease which we now call roup will prove to be a class of diseases having at least one point in common, viz: catarrhal inflammation of the mucous membranes of the head.

This disease, or class of diseases, is a very important one. It results in the loss of thousands of dollars annually to the poultry raisers of Rhode Island alone. In some localities it is so fatal that all profits are swept away, and the business has been abandoned by many farmers for this cause. One writer states that 80% of the deaths among fowls in Canada arise from this cause. Roup, then, is a very insidious disease, is widely spread over the country, and is slowly reducing the numbers in many flocks. The course of the disease is slow, and it sometimes becomes chronic and continues for a long period. Many fowls are affected and are held out of use for a long time, and probabaly never again regain their full vigor. Thus, in addition to the loss by death, the indirect loss, through reducing the total of poultry products and rendering useless many animals, is very great. In addition to this the loss is increased through the diminished vitality of the breeding stock, resulting in weaker and less productive flocks.

The disease is not only prevalent in this country and Canada, but many reports appear in European journals of a disease similar in general nature to that occurring in this country.

It usually affects young fowls. Often it is so destructive that the profits of raising are entirely consumed. Sometimes half the chickens hatched die from this cause. It is not, however, confined to young chickens, though they suffer most. Full grown fowls are subject to its ravages. The progress among the old hens is slower, but by it they are made useless as layers, and it is doubtful if they ever regain their full strength. It is much more prevalent in the fall and winter. This is probably due to the cold weather.

Symptons.—The first symptoms which are apparent, without careful examination, are moping, ruffled feathers, poor appetite, and "going light." These are followed by inflammation and watery discharges from the nose and eyes. If, however, a fowl be very carefully watched from the outset of the disease, these symptoms will be found to be preceded a number of days by the appearance of minute patches of white exudate in the throat and nasal passages, and by a rise of temperature of 1° to 2° Fahrenheit. It is usually ten or twelve days from the inception of the disease until the well marked symptoms make their appearance. At the outset the exudate is a watery secretion possessing scarcely any color, and the inflammation is rather local. It may be one eye or one nostril which begins to swell and exude. At the disease progresses the secretion undergoes a change; it becomes more viscous, and resembles pus, also, either from coagulation or from drying, is hardens into a crusty mass. This mass adheres very tightly to the surface and can be scraped away only with difficulty. Its removal from the throats of some fowls leaves bleeding spots in its place. The adjacent membranes become greatly inflamed and swollen. The secretion continues and accumulates, sometimes filling the eye, and drying on the surface prevents the natural removal of the secretion. This results in the formation of a spheroidal mass of yellowish, cheesy matter, which closes the eye completely. Where the lining of the air passage is affected in this way, the mass collects within the nasal chambers, increasing the inflammation and causing large swellings below the eyes. Bacteria collect in this

mass and putrefaction takes place, resulting in the production of very foul smelling gases. After this encrustration has remained adherent to the mucous membrane some time it is sloughed, carrying with it the superficial layers of the epithelium. Where the mass has dried to the lids of the eye, so that it is not removed, the diseased mucous membrane is prevented from healing and thus the eye is permanently closed. In some cases this affects both eyes. In the nasal chambers the secretion is often held in this way.

All these lesions are accompanied by a permanent rise of temperature, varying from 1° to 3°. The digestive system is very much affected, the temperature is small, and the fowl grows very light, has difficulty in finding its food, especially when both eyes are affected, and death is probably due in many cases to impaired nutrition.

Great variation is noticed in the virulency of the disease. Usually it claims only an occasional victim from the flock, many victims recovering. At times outbreaks are reported from various quarters, and the symptoms described are in a general way similar to the more chronic form. The progress of the disease is very rapid in these epidemics, and is often very destructive, sweeping away whole flocks and entailing heavy losses.

Cause of Roup.—The cause of the disease is obscure. Many poultry raisers maintain that it is only the result of a cold which has developed into catarrh and is no way contagious. They hold that it is the result of exposure to cold draughts and damp weather. Their position is sustained by the great improvement noticed in affected fowls as soon as they are placed in warm quarters and well supplied with food. It is also noticed that fowls which are accustomed to open air and wide range are seldom affected.

On the other hand, there is abundant proof that the disease is due to bacteria. Fowls in localities never contaminated by the germs are doubtless subjected to as many draughts and other exposures as in places where the disease prevails. And instances can be cited where flocks previously entirely free from the disease have produced numerous cases after affected fowls were put with them.

Contagion.—Experiments abundantly show that the disease is conveyed by contact from fowl to fowl. Dr. Stevenson of London, Ontario, has given the matter considerable attention. He reports that the disease may be conveyed by confining the fowls for three or four hours together in a bag. With a view to definitely determining the method of the contagion, I recently performed several instructive experiments. A fowl was selected, perfectly healthy and strong, and to its eyes was applied the discharge from the eye of a fowl afflicted with the disorder. The fowl was kept and watched with care. After ten days the disease manifested itself. Again, to determine the method by which the disease was conveyed ordinarily from one to another, two well fowls, a hen and a cock, were confined in a small pen with a chicken badly affected by the disease. The three fowls were obliged to eat and drink from the same dishes, and were seen to sit together upon the roost. After twenty-one days the disease made its appearance in the healthy hen, and several days later the cock also contracted the disorder. These experiments, repeated in various ways among poultrymen, have established the point that the disease is conveyed by contact.

Treatment.—Roup is amenable to curative remedies, and with wise treatment the disease could be greatly lessened. Most important of all is the necessity of preventing the spread of the disease. There should be in connection with every farm a pesthouse, where all those fowls affected may be isolated and treated. It is unwise to kill all the fowls affected, since careful treatment will usually cure. After the fowls are cured they should be kept isolated for a time, to be sure that all germs are dead. And when any additions are made to the flock they should at first be quarantined for many days, until it is certain that they are free from the disorder before they are allowed to mingle with the other fowls. In addition to this, fowls once affected should never be used for breeding. It is by no means certain that the disorder is hereditary, but the appearance of the disorder among very young chickens leaves ground for suspicion on this point. But more important than this is the inevitable weakening of the vitality and the consequent weakened offspring.

The therapy of the disease consists in placing the chickens in comfortable quarters, and seeing that they secure an abundance of rich food. It is reported from Washington, D. C., and Raleigh, N. C., that many cases of the disease were cured by the use of these means alone. The disease may be arrested in the early stages by warmth and care.

A few simple remedies are recommended. An antiseptic wash, such as dilute carbolic acid or a solution of corrosive sublimate, or lysol, 1 part to 2000 parts of water. Kerosene is often of use as a local remedy. Besides this, Hege recommends the use of Epsom salts as a purgative dose; others recommend oil or turpentine for this purpose. Where the exudate collects in the eye it should be carefully removed, and the eye washed with an antiseptic solution, *e. g.*, peroxide of hydrogen, 3% aqueous solution. Where a swelling indicates the collection of matter in the nasal chambers, they should be opened, and usually a large amount of a putrid mass may be removed. All these pieces should be burned, as they are the means of contagion. Mr. Wilcox, a successful poultry raiser of Kingston, R. I., reports that he has had no deaths at all from roup for many years. His method is to remove any exudate which may be found either in the eyes, throat or nasal passages, and to keep the fowl free from exposure. Doubtless many of the deaths attributed to this disease arise from improper nutrition, or actual starvation. The sick fowls are stupid and weak, and are unable to secure their share of the food. Thus, in their weakened condition, when abundance of food is most necessary, they are improperly fed, and, perhaps, get nothing at all. If one eye is blind, they can see much less food than formerly, and are outstripped by their more healthy mates; when both eyes become closed, as often happens, they are unable to find food at all, and will certainly die if no assistance is given. When these collections of matter take place in the nasal chambers, respiration may be seriously interfered with. By the use of even simple means there is no doubt that the loss from this disease can be greatly lessened.

THE APIARY.

The Best Beehive for California.

To the Editor:—Will you kindly print description of the most approved and simplest beehive?—Reader, Corning.

Mr. J. F. McIntyre of Sespe, Ventura county, is one of the most thoughtful and observant of California's apiarists, and his conclusions about hives will be interesting to many readers. He recently gave his conclusions on this subject in the *Busy Bee.*

Advantage of Large Hives.—For several years I have been trying to find out the best size of hive for extracted honey in the Sespe apiary, with a very strong desire to prevent swarming, or any further increase of stock. My experiments lead me to believe that Dadant's hive and system would be the best for this purpose, but my apiary contains over 11,000 Langstroth combs, and to change these to the two sizes in the Dadant hive is out of the question. Large combs and plenty of them in the brood chamber, with prolific queens to match, give the largest number of bees per colony, and, with plenty of super room, the larger the colony the more honey we get per hive; it would be much more profitable to get all the honey from a location with 200 colonies, than it would be to get it all with the same number of bees in 300 colonies. The 300 smaller hives would require more labor per hive to care for them than the 200 large hives. They require more care to prevent starving, more labor and annoyance to hive swarms, the first cost of the hive would be greater, and the expense of feeding them through a dry year in California would be greater.

Improved Langstroth.—Four years ago I deepened a few ten-frame Langstroth brood chambers, making the frames 12 inches deep, and used a regular Langstroth super above to extract from, with a queen-excluder between. These hives produced fine, large colonies, and I would be satisfied with them if they would not swarm; but they do swarm with me as badly as the regular ten-frame hive, and when this happens they are not desirable, because the brood-chambers are too large for a divided colony, or to hive a swarm in without contracting with the division boards.

My apiary also contains sixty-two regular twelve-frame Langstroth hives, which are open to the same objection; they are too small to prevent a swarming, and too large to have a swarm in, and altogether do not average as much surplus honey per hive as the ten-comb hives. Dadant prevents swarming by tiering up those shallow extracting supers and always putting the empty combs next to the brood-chamber without a queen-excluder between, and, if swarming is prevented, his brood-chamber is all right for size.

I have been through the shallow-frame fad for comb honey, and am satisfied that any frame smaller than an eight-comb Langstroth is unprofitable in this locality, and for extracted honey I am satisfied that any hive smaller than a ten-frame Langstroth is unprofitable.

Three-Story Hives.—The upper limits of size are not so well defined, as they depend entirely on the prolificness of our queens, the length of time our bees have to breed up in the spring before the honey flow commences, and our success in preventing swarms. One of my neighbors, Mr. Keene, keeps his bees in eight-comb Langstroth hives four stories high, without any queen-excluders or any one to watch for swarms, and his average yield per colony is just about the same as his neighbors, who put in their time during the swarming season watching for swarms and hiving them. If next season is a good one, I want to try a large number of ten and twelve-comb Langstroth hives three stories high. Will start with single-brood chambers in the spring, and, when these are nearly full of brood, will raise them up and put another brood-chamber full of empty store combs above them; and, if they do not swarm and their average of surplus honey is as high as the balance of the apiary, will put another brood-chamber under every hive.

THE VETERINARIAN.

Answers by Dr. Creely.

Founder.

To the Editor:—I have a young mare that ate from a sack of wheat about a month ago so as to founder her. At first she was drenched with linseed oil and afterward stood in mud, and later she has been given powdered alum in her feed. She has improved, but is still quite stiff in her front legs, or, more properly, in her feet, and her feet are swollen somewhat above the ankles. What treatment would Dr. Creely advise?—Willet C. Mount, Red Bluff.

This is chronic founder (laminitis). Blister both coronets and turn her out on marsh land for a couple of months.

Caked Bag.

To the Editor:—I have a young Jersey cow that has recurring attacks of caked bag. She has had it three times since coming in last November with her third calf. What can I do to prevent the attacks and what are the best remedies to use in such cases?—Enquirer, Elmhurst.

Practice great cleanliness and apply camphorated oil occasionally. Fresh mutton tallow and oil of eucalyptus are also beneficial.

Eye Trouble With Cows.

To the Editor:—My neighbor has a herd of fifteen cows, of which eight have gone blind in one eye in the last ten days. He believes the cause is the Texas fly, or horn fly as some call it. They seem to stick to the eyelid and bite through into the pupil of the eye, and in one or two days the eye turns white. If you have knowledge of a remedy, will you kindly give it through the columns of your paper.—H. J. Haney, Stege, Contra Costa county.

I can not tell whether this is local or systemic. The symptoms are not complete. Bathe several times daily with borax water—a handful of borax to one quart of water. After this inject the following: Cocaine, 20 grains; atropine, 30 grains; distilled water, 4 ounces. Mix and make an eye lotion.

[We do not think this is the work of the horn fly, although this fly may be present and add to the trouble.—Ed]

A Tumor.

To the Editor:—A cow calved one month ago. Since that time there has appeared a lump as large or larger than a man's fist, well up the udder, behind. It is not attached to the outer skin of the udder, but appears to be an interior growth. It gives the cow no pain when it is manipulated. Can you advise me as to its nature, and if bad results will follow.—Granger, Napa.

It is a tumor of the glandular structure. Being painless, bad results will not follow unless it is tubercular in character. Give potassium iodide, 2 drachms, once daily. Daily applications of iodine tincture will benefit.

Dr. E. J. Creely,
510 Golden Gate avenue, S. F., Cal.

THE DAIRY.

Death of a Famous Cow.

Mr. F. H. Burke of La Siesta Ranch, San Jose, has recently suffered a severe loss in the death of the grand Holstein cow Fansje 2nd's Clothilde. This cow has been a great prize winner in the California State Fair, winning the seven days butter test for aged cows in 1897 and again in 1898, besides minor prizes in other classes, and she was expected to win first prize again this year at the State Fair just closed. Fansje 2nd's Clothilde comes of an illustrious family among Holstein-Friesians, her sire being the well-known King Aaggie Clothilde, at one time the property of Mr. George Polhemus of Coyote, later in Mr. Burke's La Siesta herd, and more recently owned by Mr. Thomas B. Hall of Sacramento, while her dam, Fansje 2nd, and her grandam, imported Fansje, both have Advanced Registry milk records. Fansje 2nd was a daughter of Patrol, he by the famous bull Billy Boleyn. King Aaggie Clothilde is a great-grandson of the celebrated cow Clothilde (155 A. R.), who had a milk record of 101 pounds 2 ounces in a day and 26,021 pounds 2 ounces in a year, being the second largest record ever made, and also a butter record of 28 pounds 2¼ ounces in seven days, 95 pounds 2½ ounces, unsalted, in thirty days. As is well known, Mr. Burke is a great admirer of the Clothilde family, most of his herd being representatives of that stock, through King Aaggie Clothilde and also Clothilde 5th's Clothilde, both having been great prize winners in California. Mr. Burke considers that, out of some thousand head of Holsteins bred at La Siesta, this cow, Fansje 2nd's Clothilde, was one of the dozen best milkers, and she not only excelled in giving a great quantity of milk, but also in producing a great amount of butter. The death of such a cow as this is not only a loss to the individual herd, but a loss to the dairy interests of the State as well, and Mr. Burke has the sympathy of all well wishers of the great Holstein-Friesian breed of cattle in California.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

GRAPE CROP SHORT. — *Herald*, Sept. 30: Every vineyardist in the valley is in the midst of the vintage and the vineyards and wineries present a busy appearance. The crop will not be so large hy at least one-third as was predicted hy the growers a few weeks ago. The good effects of the cool summer were dispelled hy the hot weather of one week. As a prominent wine man said in summing up the situation: "It is not the hot weather so much as it is the effect of the drouth. The necessary moisture is not in the grapes, which look withered and dry, and the crop is lacking both in quantity and quality." The private wineries will have harely enough for their most urgent needs. The association winery—the largest in the district—will not receive any grapes this season. The vintage will not last more than two or three weeks longer.

Butte.

OLIVE CROP SOLD.—Oroville *Register*, Sept. 28: The California Olive Co. has purchased the olives on the trees in the Stump grove for $1.50 a tree. If we estimate the number of trees per acre at 100, it gives $150 an acre. As the trees get older, some will have to be removed and some years hence fifty trees per acre will he the limit. Later still this number will have to be reduced to ahout thirty, but as the trees get older and larger they bear more fruit to the tree, so that we may estimate the grower will get as much for his fruit with a less number.

FRUIT NOTES.—Chico *Record*: At the hegining of the fruit season it was estimated that the prohable amount of dried fruit to he sent from Chico, Gridley, Biggs, Dunham, Nord, Vina and Tehama would he 300 carloads. Fruit buyers claim that nearly that amount has gone forward, and the fruit has been on the whole of an excellent grade. E. A. Warren stated that the dried peach and apricot season for this locality is practically closed. All of the carload lots have been bought and shipped, except eight carloads on the Bidwell ranch. The average price has heen 4¼ cents per pound for peaches. At Gridley the entire crop is cleaned up, also at Biggs. Around Vina there are prohably forty carloads yet to be disposed of. Nearly all of the dried fruit shipped from northern California is sent East in sacks, and it is there packed for the retail trade. Antone Lowe, who has dried a considerahle quantity of fruit this year, is now engaged in packing peaches in hoxes instead of sacks, and finds that he can get enough more for the goods to pay for the extra labor required.

Fresno.

MONEY FOR RAISIN GROWERS. — Dispatch from Fresno, Oct. 2: The directors of the California Raisin Growers' Association have declared another distrihution of money to the growers. This time $125,000 will he paid out, and the money will come in very handy in picking and curing this year's crop.

Kings.

A FALL CROP OF WHEAT.—Hanford *Journal*: A fall crop of wheat is a novelty in this section of the Union, hut Messrs. H. C. Tandy and Frank Pryor have such a crop. They seeded 100 acres to wheat the latter part of July. It is on rich soil and is growing nicely. It is now "in the hoot," and the present warm weather is just what is needed to mature it. The prospects are good for a large crop of hay, at least, or for a good grain harvest, unless the frosts come too early.

Los Angeles.

AN ARBOREAL CURIOSITY.—*Times*: A great curiosity in vegetable life may he seen in J. C. Preston's dooryard, near Glendora. It is a live oak tree ahout 40 feet high, supporting a large Muscat grapevine and two great rose vines—a Marechal Neil and a Banksia. The grapevine is only four years old, but has climbed all through and over the foliage of the oak, and is loaded with hig clusters of grapes, which appear to he growing from the limhs of the tree. Interspersed through and over the foliage of vine and tree are clusters of roses in full hloom, and all forming a delightful shade of leaves, fruit and flowers, illustrative of the wonderful versatility of the soil and climate of southern California.

PROFITABLE SEWAGE FARM.—Pomona *Times*: The sewage farm has heen owned and managed hy the city for seven years. This year's crop is thus reported: Ahout 100 tons of alfalfa hay have been sold loose in the field at $6 per ton. About 200 tons of harley have been and sold or stored. About thirty tons are heing delivered to the street and fire departments. Some has heen sold at $14 per ton. The English wainut crop looks extra fine. Last year these nlnety acres of seven-year-old trees yielded $9991 worth of walnuts. This year the prospect is that the yield will be nearly doubled. The eucalyptus grove is to be thinned out. From 150 to 200 cords of wood was recently sold. It pays the city $3 per cord on the stump. Altogether, the productions of the sewage farm ought to yield the city between $4000 and $5000. Last year the total receipts were $3029 and the cost $2391. The farm has has now reached a point where it is yielding rich returns. The average daily flow is from 25 to 35 inches. To show the unobjectionahle character of sewage, it may be said that tramps coming along the road wash with and drink the sewage water, evidently not knowing where it comes from.

Monterey.

GRAIN WAREHOUSES FILLED.—Salinas, Sept. 29th: The grain warehouses in Monterey at present are almost filled. The largest in the county is that of the Southern Pacific Milling Co., situated in this city. The average daily storage for the last thirty days has heen 4000 sacks. Over 400,000 sacks are now in the warehouses, while many hundreds are stored outside on the platform. The Castroville warehouse contains over 55,000 sacks, and more is heing taken in daily. All the farmers in the county that can are holding their grain for hetter prices.

Napa.

LARGE WHEAT CROPS.—*Register*, Sept. 27: A crew of men are threshing for Frank Musgrave on Carneros creek, where the yield is exceptionally large. One field of twenty five acres gave a yield of twenty-five centals of wheat per acre; another field, fifteen acres, produced thirty-two and one-fourth centals to the acre, and the remainder is showing a great yield.

HOP CROP.—St. Helena *Star*, Sept. 29: A representative visited Dowdell & Son's hop yards, where fifty-five acres are planted to hops, the vines showing luxuriant growth and heavily laden with large and fragrant hops. Over 100 men, women and children were engaged in picking and ten men found employment in superintending and caring for the hops. Barreis were used hy the pickers and pay was hy the bushel. James Dowdell informed us that the rate was ahout 1¼ cents per pound. A portion of the yard yieided a ton to the acre, while from the fifty-five acres thirty-five tons were gathered. When the hops were gathered they were placed in four large cars adjusted over the same number of furnaces and then covered hy large pieces of canvas, a system of sulphuring patented hy Dowdell & Son. After the hops were sulphured the cars were pushed along an elevated track to a huilding 60x100 feet in size, 16 feet high, and there the hops are stored sufficiently long to undergo a season of curing. In ahout two weeks the crop will be haled and ready for market.

Orange.

WALNUT SITUATION. — Anahelm *Gazette*, Sept. 28: The crop of California walnuts will he marketed mainly through a combination of associations, which agreed to deliver their crops to the hrokers, the price to he mutually agreed upon hefore the shipments began. The parties who were to purchase the crop had taken orders throughout the country for the new crop, subject to approval of the price when made, with the understanding that the prices would be association prices and that selling agents would receive a commission. The leading johhers in the East made their purchases on this basis. The growers made a price of 7.65 cents a pound for No. 1 hardshells, and 8 15 cents a pound for No. 1 softshells.

WALNUT FIGURES.—Santa Ana *Blade*, Sept. 29: The walnut crop for the district comprising Tustin, Orange and Santa Ana has up to within a few days heen estimated at ahout sixty-five cars, hut now that it has heen about all hought up the figures can he almost accurately given. There are five huyers in the field and these are the approximate amounts they have contracted for: Gowan, 10 cars; J. N. Smith, 19 cars; C. C. Collins, 4 cars; Jacohy, 5 cars; Spencer, 5 cars. The association controls ahout 45 cars, and there are yet in the market ahout two carloads of odds and ends. This will figure up 95 cars, or 30 cars more than was counted upon earlier in the season. These figures may, of course, fall short, but will not fail far enough short to make more than the difference of four or five cars.

WALNUT CROP.—Redlands *Citrograph*: Orange county's walnut crop for this year is estimated at 225 cars. The State crop this year will he 470, and good judges place next year's crop at 800 to 1000 cars.

Sacramento.

WALNUT TREES FOR SHADE.—*Record-Union*: Jas. Patterson, a farmer at Routier's station, says he is of the opinion that farmers and others could do well hy combining the heautiful with the useful. He thinks that, instead of planting out trees simply for ornament and shade, there is a species of trees that combine with those qualities that of profit. He suggests that the Præparturiens walnut he planted along the drives and fences, as they are quick growers and hear well. A row planted along the fence to allow of cultivation, he says, will in a few years add considerahle to the owner's income. In support of his theory, he shows a row of trees of that walnut which he grafted five years ago on California hlack walnut stocks, four years old from the nut. They are now thirty feet high, strong growers and a well-shaped, ornamental tree, handsome enough to he placed anywhere. From these nine trees, which have received ordinary cultivation, he gathered last year over 400 pounds of fine nuts, selling them at 8 cents a pound, thus bringing him over $3 to the tree. As they take up no more ground than any of the shade trees would along the fence, he thinks it a profitahle investment as well as an ornamental one.

San Bernardino.

SUGAR ITEMS.—Chino *Champion*, Sept. 29: Work at the sugar factory has heen moving along smoothly and without particular event the past week. The tonnage sliced and the average percentage of sugar in the heets per day, commencing on Thursday of last week, were as follows:

	Tons.	*Per Cent.*
Thursday	780	17.7
Friday	757	17.3
Saturday	829	17.0
Sunday	347	18.3
Monday	516	15.2
Tuesday	834	17.2

The average daily sugar output from factory for the week has heen 1975 sacks, or 197,500 pounds. The company has not had a pound of sugar come hack to it as in any way defective, nor has a single complaint come as to quality.

Santa Clara.

STATE HORTICULTURAL CONVENTION.—Dispatch from San Jose, Oct. 2: The Board of Trade, Farmers' Club and San Jose Grange have appointed committees to prepare for the meeting of the State Horticultural Society, which convenes here Dec. 6th to 8th, inclusive. A large attendance is anticipated.

PRUNE BUSINESS.—Camphell *Visitor*, Sept. 30: The Fruit Union has presented a lively appearance this week. Shipping the new dried fruit has begun, a dozen or more cars having heen shipped the past week. Some twenty women have heen husy facing and packing 25 pound hoxes, while a score of men are handling, grading, dipping and shipping the different varieties. A few prunes came in as late as yesterday, making a total of 4,021,908 pounds, or more than 2000 green tons, for the season. Prospects for hetter prices are hright.

Solano.

SHIPPING SUGAR BEETS.—Cordelia *X-Ray*: J. Smith, foreman of the Sugar Beet Company, informs us that they are shipping three carloads of beets dally to the refinery at Crockett, and that thirty-five carloads have been shipped this season. They have 125 men employed in harvesting the crop in this vicinity.

Sonoma.

LIGHT OLIVE CROP.— Cloverdale *Reveille*, Sept. 30: J. A. Kleiser states that his olive crop this year will he almost a total faliure. The yield will not be sufficient to make up into oil. Mr. Kleiser has heen making oil for several years. He has over 800 trees and will harvest only a short crop for pickling.

FINE APPLES —Healdsburg *Enterprise*, Sept. 30: From forty apple trees of the 20-ounce Pippin variety, Mr. A. H. Stanger sold six tons of mammoth apples, for which he received $15 per ton. The 20-ounce Pippin is worthy of the name, for many of the apples of this variety gathered on the Stanger ranch exceeded twenty ounces in weight. In spite of its enormous size this variety of apple is of superior flavor and thrives in Sonoma county.

GRAPES RICH IN SUGAR.—Dispatch from Cloverdale, Sept. 26: Grape picking is in full progress, though pickers are very scarce and hard to get at any price. Growers were totally unprepared for the unusually early ripening of grapes. In past years they were not ready for picking until ahout Oct. 20. In spite of the cool and hackward conditions of this season, the grapes have matured very rapidly, and, contrary to expectations, have run very high in sugar. With very few exceptions, they have not gone below 22%. The average seems to he hetween 23% and 26%. J. B. Arceamheau had several tons of Zinfandel that went as high as 40%. His statement may not he generally helieved, but he has his receipts from the winery to show for it. Growers are getting fair prices for their crops—from $12 to $16—and they think that, in spite of the collapse of Mr. Crocker's proposition, they will do as well next year.

NEW WINERIES.—Santa Rosa *Press-Democrat*, Sept. 30th: The Moulton Hill winery, near Cloverdale, which was destroyed hy fire a year ago, is undergoing rapid reconstruction, and Mr. Alhertz is also making many additions and improvements. A hout ten years ago he was the first one in this part of the country to huild cement wine tanks in the ground. The main structure is of stone and cement, the dimensions being 100x76 feet. A storage room of the same materials is 60x40 feet, and a fermenting room 100x40 feet. In addition to 200,000 gallons of cooperage there are four cement storage vats of 40,000 gallons capacity and six fermenting tanks of 360 tons capacity. The main stone huilding will not be completed this year, hut the storage cellars will he finished. Mr. Alherts is paying from $12 to $14 for grapes, having already hought 200 tons. His own vineyard will supply ahout 600 tons. Picking hegan last Tuesday, and the sugar test showed from 27% to 28% Owing to the favorable conditions everything will he made into sweet wines this year.—A husy scene is presented at the Bosch winery at Geyserville. A force of fifty men is at work hoth in crushing grapes and in putting the finishing touches on the huildings and machinery. An immense hrandy still is heing installed in the boiler huilding and will he ready for distilling in ahont ten days. Three crushers are in operation. They have a capacity of over 250 tons per day. Ahout 5000 tons will he crushed this season which will prohably end in about five weeks. The storage tanks of this winery have a capacity of 1,000,000 gallons. An interesting machine is the Dilereau continuous grape press which has a capacity of 200 tons per day of ten hours.

Shasta.

HAPPY HORTICULTURISTS.—Anderson *News*, Sept. 30: The peach crop this year has heen enormous, in fact the largest ever raised in Happy Valley, and good prices have been realized, from 5½ to 6 cents a pound. S. C. Dick has made an estimate of the money brought in from the sale of green and dried fruit this year, and says it is safe to put in at $25,000.

Sutter.

CANNING NOTES.—Yuha City *Farmer*, Sept. 29: At the Rosenherg cannery the fig packing goes on actively, over 350,000 pounds having already heen received, and new lots come in dally. The force has heen increased to 300 hands, and the work will continue for several weeks. The season's work at the Sutter cannery is nearing a finish, and with the exception of tomatoes the pack is virtually all up. The run this year was a lively one—over 40,000 cases of fruit packed. Besides this, the dry yard has heen run to its full capacity and 500 tons of green fruit and 300 tons of grapes have heen handled during the season. Some fruit is still on the trays. The labelling, hoxing and shipping departments are now rushed with work and ahout forty hands are employed. Ahout five carloads per day are prepared for shipment. The raisin stemmer has heen set up and the work will shortly commence on the raisins. Shipments of canned and dried fruits have already heen made this season and will continue for some weeks.

Tehama.

PRUNE PICKING.—Corning *Observer*: The crew employed hy Max W. Muller to pick his prune crop have completed their work. From three and one-half acres of six and seven-year-old trees, grown without irrigation, were picked 69,400 pounds or thirty-four and a half tons, an average of over nine and three-fourths tons to the acre.

Yolo.

HOLDING BACK WHEAT.—Considerahle barley is changing hands at Woodland, but farmers are holding on to their wheat, hoping that there will he an advance in prices. Every warehouse in Yolo county is filled and many thousands of tons are piled along the railroad tracks awaiting shipment.

FRUIT GROWING PAYS.—Winters *Express*, Sept. 30: Does fruit growing at present prices pay? Of course it does. McCormick Hughes has finished drying, sold his crop, settled up his expense accounts, and finds that from three acres of peaches his net income was $382 98. That means $127.66 per acre. The fruit was sold at 6 cents per pound. Ten acres of peaches would have yielded him a hetter income than he could have expected from almost any other investment.

Tulare.

BIG FRUIT CROP.—Dispatch from Visalia, Oct. 2: I. H. Thomas, Horticultural Commissioner of the Visalia district, has made a report to the Board of Supervisors for August and September. Thomas says he finds the orchards have hroken all previous records for crops, and that about one-fourth more fruit was raised than was anticipated by the most sanguine growers.

OREGON.

PRUNE CROP.—Oregon *Agriculturist*, Oct. 1: The average quality of the prunes in Oregon will he decidedly good this year. The Italian prunes of Douglas county are large and of the hest quality; the Petites vary much in size hut average larger than last year and hetter in quality, many samples heing very fine. In the Willamette valley the Petites are very much larger and far better in every respect than they were last year; the Italian crop is very small hut the quality is believed to he up to last year's high standard. In Jackson and Josephine counties the prunes are reported as being of the hest quality. From such information as is now available it seems quite certain that Oregon's crop of cured prunes will exceed 5,000,000 pounds. Douglas county alone will market 2,500,000 pounds. The total output of the State will he 40% of last year's crop and more than 25% of what might he considered a full crop. The bulk of the crop is made up of Petites. There will also be several carloads of Silvers in Douglas county, and some Silvers in other portions of the State.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

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which is so prominent in most of the dairy butter, and which is so offensive to many people, is the result of dirt; real fine dirt that can't be strained out. The **Little Giant Separator** takes out all the dirt, produces a perfect flavor and greatly increases the product. It is the safest, easiest cleaned and requires less repairs than any small separator made. Send for Catalogue No. 31.

The Sharples Co., Canal & Washington Sts. CHICAGO. **P. M. SHARPLES,** West Chester, Pa. U. S. A.

WANTED,

To lease a good paying dairy, fruit, or grain ranch for a term of years, with the privilege of buying. Address A. W. BRYANT, Sites, Colusa County, California.

SITUATION WANTED.

Single man, with ten years' experience, wishes situation on dairy ranch. Can give good city references. WALTER LITTLE, Winchester House, San Francisco.

WANTED.—A FARM OF FROM 40 TO 80 acres, which shall include at least 30 acres of first-class land suitable for general fruit raising without irrigation. Write, giving terms and references. Describe location in general, with reference to map and, in particular, with reference to roads, streams and hills. Outline contour of land. Describe summer and winter climate. What are the facilities for transportation? Is the place malarious? Is irrigation practicable, either by stream or wind power? How deep must one go for water? V. F. PORTCH, Chinan via Tsintau, China.

THE HOME CIRCLE.

In the Forum.

The last warm gleams of sunset fade
From cypress spire and stonepiece dome,
And, in the twilight's deepening shade,
Lingering, I scan the wrecks of Rome.

Husht the Madonna's Evening Bell,
The steers lie loosed from wain and plow;
The vagrant monk is in his cell,
The meek nun-novice cloistered now.

Pedant's presumptuous voice no more
Vexes the spot where Cæsar trod,
And o'er the pavement's fretted floor
Come banished priest and exiled God.

The lank-ribbed she-wolf, crouched among
The regal hillock's tangled scrubs,
With doting gaze and fondling tongue
Suckles the Vestal's twin-born cubs.

Yet once again Evander leads
Æneas to his wattled home,
And, throned on Tiber's fresh-cut reeds,
Talks of burnt Troy and budding Rome.

From out the tawny dusk one hears
The half-feigned scream of Sabine maids,
The rush to arms, then swift the tears
That separate the clashing blades.

The Lictors with their fasces throng
To quell the Commons' rising roar,
As Tullia's chariot flames along,
Splashed with her murdered father's gore.

Her tresses free from band or comb,
Love-dimpled Venus, lithe and tall,
And fresh as Fiumicino's foam,
Mounts her penteilic pedestal.

With languid lids and lips apart,
And curving limbs like wave half-furled,
Unarmed she spurs the restive heart,
And without scepter sways the world.

Nerved by her smile, avenging Mars
Stalks through the Forum's fallen fanes;
Then, changed of mien and healed of scars,
Threads sylvan slopes and vineyard plains.

With waves of song from wakening lyre
Apollo routs the wavering night,
While parsley-crowned, the white-robed choir
Wind chanting up the Sacred Height,

Where Jove, with thunder garlands wreathed,
And crisp locks frayed like fretted foam,
Sits with his lightnings half unsheathed,
And frowns against the foes of Rome.

You cannot kill the Gods. They still
Reclaim the thrones where once they reigned,
Rehaunt the grove, remount the rill,
And renovate their rites profaned.

Diana's hounds still lead the chase,
Still Neptune's Trident crests the sea,
And still man's spirit soars through space
On feathered heels of Mercury.

No floods can quench the Vestal's Fire;
The Flamen's robes are still as white
As ere the Salii's armored choir
Were drowned by droning anchorite.

The saint may seize the siren's seat,
The shaveling frown where frisked the Faun;
Ne'er will, though all besides should fleet,
The Olympian Presence be withdrawn.

Here, even in the noontide glare,
The Gods, recumbent, take their ease;
Go look, and you will find them there,
Slumbering behind some fallen frieze.

But most, when sunset glow hath paled,
And come, as now, the twilight hour,
In vesper vagueness dimly veiled
I feel their presence and their power.

What though their temples strew the ground
And to the ruin owls repair;
Their home, their haunt is all around—
They drive the cloud, they ride the air.

And, when the planets wend their way
Along the never-ageing skies,
"Revere the Gods!" I hear them say;
"The Gods are old, the Gods are wise."

Build as man may, Time gnaws and peers
Through marble fissures, granite rents;
Only Imagination rears
Imperishable monuments.

Let Gaul and Goth pollute the shrine,
Level the altar, fire the fane;
There is no razing the Divine,
The Gods return, the Gods remain.

—Alfred Austin.

A Water Nymph.

She stood silhouetted against the skyline, a lithe, supple figure in an old lilac print frock barely reaching her slim ankles; the golden gleam of the setting sun full in her sea-green eyes, and burnishing the pale yellow of her hair. One brown hand was raised to partly shield her eyes from the glare of the sunset, and in the other she held a thin switch, more from custom than anything, as the cows needed no goading to persuade their homeward steps, albeit they took the journey slowly enough. But she was in no hurry tonight, so they browsed unchecked while she stood and let her gaze wander over the broad expanse of fen, a landscape she had had every opportunity of studying for the eighteen years she had lived in it, but until to-night she had taken its varying features as a part of the day; to-night they stood out and pictured themselves on her brain so that she always remembered the great plain as it looked on that June evening.

Before her stretched the long, level acres of pasture land, intersected with dikes reflecting now every hue of the sunset, where their placid bosom lay uncovered by the broad leaves of the yellow water lily, or by the shadow of the tall iris, and giving no sign of the treacherous black mud in their quiet depths. Beyond stretched the river, like a burnished swordblade, winding in out among the pastures; in the far distance one or two homesteads reposed among a belt of trees; beyond that, again, the uplands, belts of fir trees, a field of barley overgrown with charlock, and over all the faint, sweet smell of hay, which lingers in the memory as nothing else can, recalling peaceful summertides and the dreams of youth. A partridge rose suddenly with a whir-r-r, rousing her from her reverie, and with a word to the patient animals she continued her homeward way.

"I think it is perfectly barbarous to expect people to live in town in the summer, when the country is so picturesque and so much more desirable in every way!"

So spake Mr. Glaisby, who was nothing particular, but wore an eyeglass, a frock coat and varnished boots, and was generally to be found at Bohemian gatherings, such as the one in progress at Mrs. Barry's flat in Victoria street.

"Why don't you toddle off, Glaisby?" inquired his neighbor unfeelingly, in that I-don't-think-you'd-be-missed tone which is so irritating. "You're just the figure for haymaking."

The maid who was handing him cream with which to dilute his tea started, thereby arresting his attention; she remembered that they were carting the hay in the old meadow today.

"Did you every make hay?" he inquired, Glaisby having turned to a more appreciative listener.

"Yes sir," she replied, quietly.

"So did I," helping himself liberally to cream. "It's jolly fun, too."

His eyes wandered from her face to her sunburned hand, and he remembered that she was his aunt's new fad, a real country girl, just imported, and he watched her meditatively as she retraced her steps to the tea table, contrasting her with the long line of French or Swiss maids, her predecessors, then dwelling again on her pale yellow hair, and sea-green eyes—for he was an artist.

People were fast taking their leave, and in a short time he and Mrs. Barry were alone. She had bidden the last guest an effusive farewell, and sunk into a chair with a big sigh of relief, when she became conscious of her nephew's smooth, dark head, just visible above some amber cushions; for he had his back to her and was quietly waiting until she should recover sufficiently to enter into conversation.

"Good gracious, Cress," she said, "I though you went an hour ago."

"No," he replied; "I'm going to stay to dinner."

"Then you must want something or other, you wretched man, you haven't dined here for six months. What is it?"

Sydney Cresswell rose, and took another chair, near his aunt.

"A model."

"Want me for a model?"

"No—not exactly."

"Be plain, Cress, I'm only going to give you two minutes, I must lie down for half an hour before dinner, if I'm to hear 'Lohengrin' to-night."

"You've got the water nymph I've been looking for."

"Where? You speak as if I kept an aquarium."

"She poured out tea and brought me cream which was as unlike the genuine article as any I ever tasted—you must change your milkman, my dear aunt."

"Never mind the milkman—he is very long suffering—be explicit."

"You have a little country girl."

"Mary Emma Porter."

"Spare me! She should be called Undine."

"They don't do it in the part she comes from—what do you want with Porter?"

"To paint her."

Ridiculous?" Mrs. Barry rose wearily. "Don't be absurd, Cress! I made myself responsible for her to her father, a very worthy farmer, who brought her up."

"Well, I don't suppose for a moment anyone else's father brought her up."

"Peace! I mean to town."

"Also, I am not proposing to adopt her."

"It is the same thing."

"I must paint her."

"As a water sprite?"

"Nymph."

"But they don't wear—"

"H'm! Lend me her face. I'll be discretion itself."

"She may be frightened."

"Of me?"

"Possibly."

"There—manage it for me, and I'll go now."

"Well, I'll see."

So he went, and Mrs. Barry dismissed the matter from her mind, but a reminder came in a few days time, so she approached the subject. Mary Emma Porter listened respectfully; she had an idea that someone wanted to take her portrait, and was not displeased.

So she was despatched to Cresswell's studio in Chelsea,—a plain, workmanlike place, with the usual raised dais, a good north light, and the inevitable potpourri of an artist's surrounings. He received her with evident satisfaction, and made her feel at home in five minutes, for he knew the part of Norfolk, and chatted pleasantly about it, she forgot the strangeness of her visit, and became the natural little country maid he wanted to portray. She unbound her yellow hair at his bidding, letting it fall in thick masses round her shoulders, and then took her place on the dais while he sketched, and ere he had finished they were fast friends.

Now there are three things which befall an impressionable man,—to fall in love at first sight, to marry in haste, and to be disillusioned.

Sydney Cresswell fell into the first error, and ere the picture was an accomplished fact the second presented itself to his imagination. He saw himself wedded to his water nymph, defying convention, basking forever in the tender light of her eyes. There had been other models; but they were,—well, models; but the water nymph was different.

Mrs. Barry had ceased to bother about the matter. As long as Porter went to the studio before she was up, and was back at noon in the regulation cap and apron to wait at the breakfast table, she dismissed the subject entirely. Possibly she noticed that the girl was happier and better looking; perhaps not, for she was a woman of many engagements and many interests. So that it came as a great shock when the impressionable Cresswell announced his calm determination to make Mary Emma Porter his wife.

"Have you told her so—you tiresome wretch?" she gasped.

"No, I thought I'd do the proper thing and tell you first."

"The proper thing! There is nothing proper about it."

"I thought you would consider it very proper."

"Cresswell—you're a fool." She was both angry and in earnest, two phases through which she seldom passed. He had carried out his threat of dining with her, waiting until the coffee to launch the bomb.

Are you surprised that I love her?" he asked.

"Love? Bah! It is madness."

"One and the same thing."

"I cannot accuse her of design, she is incapable of it. I thought when I engaged a raw country girl that I should be safe."

"Engage another—I cannot marry more than one, and country girls abound."

"But she suits me, you wretch!"

"Precisely my case."

"You will have to educate her."

"Fiddlesticks! Clever women are drug on the market; now every woman one meets is educated; besides, I hate women who know too much, they bore one with their views. I don't want to marry a woman with views."

"But your friends?"

"On! I'll turn them over to you."

"Cresswell, you'll break my heart."

"Well, as long as it doesn't break theirs too."

"But, seriously, have you thought what it means? Can you be serious?"

"I am always serious."

"Then I give it up."

"That's like a sensible woman."

"Are you sure she will marry you?"

"Not sure," lighting another cigarette, "but sanguine. So no more at present, as I used to write home from school; and if you are going on to the Lanes' I'd better go also. I'll just get you to buy my little maid's frocks and things."

"I shall do nothing of the kind."

"Then I must buy them—au revoir!"

"What on earth made me get a raw country girl," soliloquized Mrs. Barry. "I'd better have stuck to the French. Cress couldn't bear them. Dear, oh dear! What fools men are!"

However, the harm was done, and there was nothing for it but to face the music, the well-bred sneers, the raised eyebrows, the little stings that rankle—these things she dreaded.

As yet Cresswell had said nothing to the girl herself, but perhaps she guessed his feelings with a woman's quick intuition, even though she had been brought up in the Fen and was simple in accordance. They stood together before the finished picture, which represented a girl reclining on a river bank, looking at her own reflection in the clear depths, and was the best thing he had ever done.

Mary Emma colored with pleasure.

"I'm sure it's much too good for me, sir," she said.

"It is you—idealized—as I see you, Mary."

She did not understand him.

"Father and mother'd be rarely proud o' that, sir; happen some day they'll see it." She spoke with the Norfolk accent, but it struck his ear pleasantly—as yet—for she had a musical voice.

"Mary," he said gravely, "have you ever had a lover?"

She laughed.

"There were one or two boys that worked on the farm, but I never thought a great sight o' any o' the lads."

He was satisfied that she had never had a lover, and felt glad that he should be the first to waken the sight of love light in her sea-green eyes, whose varying depths so pleased his artistic fancy.

She went into the small adjoining room to don hat and jacket, saying as she returned:

"You won't want me any more, I expect, sir?"

"Mary," he said, wondering how to frame the words, "I always want you now—I want you to be my wife."

She looked at him with wide, surprised eyes and slightly parted lips, and he laughed a little as he caught both her hands in his.

"Whatever would the mistress say?" she faltered.

"Nothing that concerns us. What do you say?"

She looked into his face like a child in doubt, and he drew her unresisting form into his arms and kissed her.

So they were married, and became a nine days' wonder to their friends—days that were spent in blissful ignorance of any one's opinion, roaming about the lanes in the Isle of Wight.

On their return they took a house in Bedford Park, among the Bohemians, and the young wife's troubles began. But as yet the magic of her youth and beauty was upon the man she had married, and he was blind to everything else.

He painted her again—a study of the

head and eyes, embodying Swinburne's lines,

Eyes colored like a water flower,
And deeper than the green sea's glass.

The picture was hung on the line at the academy, and fame smiled upon him. He began to go out more, generally alone, for Mary never got over her unconquerable shyness. Beautiful women flattered him, and he — he listened, and the spirit of disillusion fell like a shadow on his path, for the woman who pitied him was both beautiful and well born.

"We will winter in Rome," he said. So they let the cottage in Bohemia. In Rome he met many people he knew, friends, acquaintances, artists, Bohemians, and Mary was left very much alone now. The disillusion was complete. He recognized that he had wrecked his life.

Returning one day to his hotel, after a week's absence with some yachting friends, he was accosted on entering by an English doctor staying in the hotel, whom he knew by sight.

"Pardon me," the doctor said, gravely. "Have you heard that your wife is ill?"

"Ill! No. She was well when I left."

"And they did not communicate with you?"

"They had no address."

At this moment the manager, a little Frenchman, bustled forward with a great display of hands and shrugging shoulders.

"Alas! Madam was ill!—it was the malaria—the fever. E-very-thing had been done; two doctors and a nurse were in attendance; he deplored M'sieu had left no address—no means to communicate."

Cresswell did not wait to hear the finish, but hurried upstairs to his wife's rooms, a curious pain at his heart.

The nurse met him, a brown-skinned Italian nun, wearing a large rosary and crucifix over her coarse gown, and with a word to insure silence led him to his wife's bedside.

"Mollie," he said, softly, taking her little feverish hand in his, "I've come back, dear. Don't you know me?"

She looked at him with hollow, unmeaning eyes, withdrew her hand, and turned from him.

"The dyke is deep after the rain," she said in a slow, plaintive voice, "and the mud's rare dangerous—poor Lassie's back was strained getting her out—her foal had strayed in, an' was drowned,—and she went in after it. She was never sort 'o use after."

The nun recited her rosary, and Cresswell listened with painstricken face, while his wife babbled of her childhood's home, and the broad fen land.

The doctors came again, shook their heads, and retired as before; and the nun prayed—prayed incessantly. Toward morning a gleam of intelligence lit up the sea-green eyes as they wandered to Cresswell's face.

"Mollie," he wispered with a broken sob, "speak to me, dearest."

"It's Mr. Cresswell!" she said, with that look of childlike wonder—and so died.

The Best Stimulant.

The best possible thing for a man to do when he feels too weak to carry anything through is to go to bed and sleep as long as he can. This is the only recuperation of brain power, the only actual recuperation of brain force; because during sleep the brain is in a state of rest, in condition to receive and appropriate particles of nutriment from the blood, which takes the place of those consumed by previous labor since the very act of thinking burns up solid particles, as every turn of the wheel or screw of the steamer is the result of consumption by fire of the fuel in the furnace. The supply of consumed brain substance can only be had from the food eaten; and the brain is so constituted that it can best receive and appropriate to itself those nutritive particles during the state of rest, of quiet and sleep. Mere stimulants supply nothing in themselves; they goad the brain, force it to greater consumption of its substance, until it is so exhausted that there is not power enough left to receive a supply.—Medical Journal.

To a Traveler.

Some hearts there are that see afar
The goal towards which they wend;
Some souls have sight to mark the light
That shows the journey's end;
But some must still strive to fulfill
What each day sets before,
Content to find there waits behind,
Each task a duty more.

And who shall say that knows the way,
That those who travel slow,
May not win much that passes such
As see where they shall go?
Perhaps there lies another prize
That may outshine this star;
And he who waits may know the Fates,
And see them as they are.

—Rupert S. Holland.

October.

Bending above the spicy woods which blaze,
Arch skies so blue they flash, and hold the sun
Immeasurably far; the waters run
Too slow, so freighted are the river ways
With gold of elms and birches from the maze
Of forests.

—Helen Hunt.

Fortunes in a Teacup.

Did you ever try to tell fortunes by tea grounds? It is really a most fascinating pastime for its possibilities are only limited by the imaginative and constructive powers of the fortune teller. Each girl makes a wish while she turns the cup, upside down, around on the saucer three times.

The first thing likely to be noticed in the grounds will be lines. A number of straight lines, long or short, indicate a long life and happy old age. Straight long lines always prognosticate tranquility, while wavy lines denote vexations and losses in proportion to their length. Small circles prophecy engagement rings; if initials can be made out near the ring, they are the initials of the future husband or wife. Larger circular figures relate to money. Triangles, large or small, signify towns, villages or places of residence, an initial near them indicating the name. Squares betoken protection from danger, peace and happiness; oblong figures signify family quarrels. If only one oblong figure appears it announces the arrival of a letter. If the oblong is in the clear part of the cup, it presages the arrival of good news; in the clouded part it means bad news. If dots surround the oblong it will bring money. A love letter is anticipated by the proximity to it of a heart or single dot.

A single line quite detached from the picture is an omen of a journey. If the line be broken, branched or intercepted by other figures, there will be obstacles to the trip. A straight line always augurs a successful journey.

Although the ring hints at a prospective marriage, if it should be quite at the bottom of the cup, the engagement will be broken. Crosses of any kind suggest death or misfortune. Few shapes and pictures promise an uneventful life.

Two circles connected by a line advises one that expected money will be delayed; if this line be broken, it portends treachery in money matters.

Reptiles forbode treachery; quadrupeds, trouble; birds are good omens. A serpent in the cup is one of the worst signs to be found. A human figure or any article of clothing denotes a visitor.

Flowers, a trefoil or a bouquet are lucky signs, they are auspicious of the speedy accomplishment of wishes.

An anchor or chain brings good luck, success in business; the higher in the cup they are the sooner the good fortune will arrive, the lower down the longer it will be delayed.

If there are not enough figures in the cup, the fortune may be tested a second, or even a third time, a few spoonfuls of liquid being put into the cup, after which it is swung around the head and inverted. To try more than three times will do no good, as a forced fortune will not come true.

DOMESTIC ECONOMY.

Approved Methods of Cooking Raisins.

At the request of President Kearney of the California Raisin Growers' Association, Oscar, the able and well-known chef of the Waldorf-Astoria Hotel, has prepared the following simple and very useful recipes for cooking raisins:

1. Put eight ounces of dripping into a basin, warm it and work in one pound of flour, mixed with one teaspoonful of baking powder. Add one teaspoonful of ground mixed spice, one ounce of candied lemon peel cut up small, four ounces of moist sugar and six ounces of seeded raisins. Mix them well and make the whole into a paste by adding two eggs beaten up in a teacupful of milk. Turn the mixture into a well greased tin or dish; put it in a moderate oven and bake for an hour. When done, take it out, turn the pudding out of the tin or dish, sprinkle it over with caster sugar and serve.

2. Butter the inside of a plain oval mold. Use three-quarters of a pound of seeded raisins, putting some of these in the buttered mold in any fancy design. Cut some thin slices of bread, trim them, remove the crusts, dry them before the fire, butter them and cut them into strips about 1½ inches wide. Line the mold with some of the pieces, and put a layer of raisins at the bottom, shaking a tablespoonful of white powdered sugar over them. Add a layer of the pieces of bread and butter, then a layer of raisins sprinkled as before with sugar, and continue adding alternately bread and butter and raisins sprinkled with sugar till the mold is nearly full. Let the top layer be bread and butter. Beat the yolks of four eggs together with a tablespoonful of white powdered sugar, two tablespoonfuls of brandy, three dessert spoonfuls of rose water and one pint of milk; pour this mixture into the mold and let it stand for a couple of hours to soak. Bake it in the oven for three-quarters of an hour; or lay a buttered paper over it, tie a cloth over that, and boil it in a steamer for an hour and a half. Turn out and serve with wine sauce.

Boiled Raisin Pudding.—1. Put eight ounces of sifted bread crumbs, finely-shred beef suet, seeded raisins and dried flour into a basin; grate over a little nutmeg and add two ounces of citron cut up small, a little powdered ginger and three ounces of crushed loaf sugar. Mix these thoroughly and make into a stiff paste by adding four well-beaten eggs, one tablespoonful of brandy and one-half gill of milk. Turn the mixture into a well-floured cloth, put into a saucepan of water over a clear fire, and boil for about four hours and a half. Turn it out on a dish when done, dust it over with sugar and serve.

2. Rub one-quarter of a pound of dripping or mutton suet into a pound of flour, add one-half pound each of moist sugar and Sultanas, or seeded raisins, one teaspoonful of yeast powder, one-quarter of a pound of molasses, a flavoring of ground ginger, spice and cloves. Beat the whole into a paste by adding sufficient skimmed milk or water, turn into a floured cloth or buttered basin, put it into a saucepan of boiling water and boil for about four hours or until it is done. Turn it out onto a dish, and serve very hot.

3. Put one-half pound each of seeded raisins, flour and shred beef suet into a basin, mix them and add gradually one breakfast cupful of milk and a couple of well whipped eggs. Place the mixture into a floured cloth, tie it up securely, or put it into a buttered basin, cover with a cloth, place it in a saucepan of boiling water, and boil from two and a half to three hours, by which time the pudding should be done. Turn it out and serve.

Iced Raisin Pudding.—Take twelve ounces of seeded raisins and boil them gently for fifteen minutes in one quart of milk or cream with a small stick of cinnamon; blanch one-quarter pound of almonds and pound them fine in a mortar with a few drops of rose water. Thinly slice two ounces each of preserved ginger and citron and beat the yolks of four eggs to a cream, together with one-half pound of powdered sugar. Strain the raisins and cinnamon from the milk, return the milk to the fire and stir while the eggs and sugar are being added to it. Continue stirring until it begins to thicken, then remove it from the fire; and when it is cold, add the fruit and almonds with one quart of sweetened cream. Put this into a freezing pot and freeze, pile on a dish and then pack it in ice. In serving the pudding, whipped cream flavored with wine, brandy or rum is placed around it.

Raisin Cake.—Put one pound of butter into a basin, warm it, beat it to a cream and add gradually one pound of sifted flour, the same of crushed loaf sugar and the yolks of six eggs. Stir these well, and, when they are incorporated, add one wineglassful of brandy, a grated nutmeg, one teaspoonful of bicarbonate of soda dissolved in one tablespoonful of water and lastly the whites of the six eggs whipped to a froth. Work well until the mixture has a light and creamy appearance, then add one pound of seeded raisins or cleaned Sultanas, finely chopped and sprinkled over with one breakfast cupful of flour to make them mix in easier. Pour the cake mixture into a tin or mould lined with well-buttered paper, bake for an hour and a half, turn it out when done, and it is ready for use. A few rose leaves steeped in the brandy will add to the flavor of the cake.

Raisin Crusts.—Seed some bloom raisins, put them in a stew pan with a small quantity of moist sugar and sufficient sweet wine to moisten and stew them. Cut some pieces of bread about three inches square and one-half inch thick and trim off the crust. Put a lump of butter or lard into a deep frying pan, and, when boiling, put in the squares of bread and fry them until lightly and evenly browned; next drain them well, put them on a hot dish, pour the stewed raisins over, dust them with caster sugar and serve.

Raisins Roly Poly.—Pour boiling water over one-half pound of seeded raisins, let them steep in it on the stove for ten minutes, then drain and wipe them dry. Chop them to a pulp. Mix together one pound of the best sugar, barely one saltspoonful of cream of tartar and one-fourth pint of cold water; put this mixture in a saucepan over a moderate fire and let it boil till, when a little of it is tried in cold water, it forms a soft jelly. Then take it from the fire and let it stand closely covered for a few minutes. Beat it to a smooth cream with a wooden spatula or spoon, flavor it with extract of roses and turn it out onto a pasteboard and work in the raisins. If the cream should get too soft to work, shake in a little confectioner's sugar; if it should get too stiff, work in a little jelly or rich cream, or put it into a basin standing in warm water for a few minutes. When the raisins are worked in, roll the mixture out with a rolling pin, spread over it a thin layer of strawberry jelly and roll it up. Make a stiff icing of the white of an egg beaten to a stiff froth, together with some confectioner's sugar, and flavored with extract of roses; spread it over the roly poly, and let it stand to harden. Serve it cut in thin slices on a glass dish.

Raisin Sherbet.—Put three pounds of raisins in a stone or earthenware jar, with four small lemons cut into thin slices and one-half pound of caster sugar; pour in six quarts of water and let it remain for three days, stirring it three or four times each day. Next strain the liquor through flannel, and pour it into stone bottles, but without quite filling them. Cork the bottles, wiring them down tightly, and keep them in a cool cellar. In three weeks' time the sherbet is ready for use.

Remember that a noble life is more powerful in teaching and inspiring others than are many eloquent words. —Dwight A. Ball.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 4, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	73¾@73¼	75⅝@75⅛
Thursday	73¼@74⅛	75⅞@76⅜
Friday	74⅜@73½	76¾@76⅛
Saturday	73⅞@73½	76½@76⅛
Monday	73⅞@74⅞	78⅛@77¾
Tuesday	74¾@73⅞	77¼@76⅞

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	March.
Wednesday	6s 0⅞d	6s 2⅝d
Thursday	6s 1½d	6s 3 d
Friday	6s 1¼d	6s 3½d
Saturday	6s 1½d	6s 3⅜d
Monday	6s 2¼d	6s 4 d
Tuesday	6s 2½d	6s 4¼d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 11⅝@1 12¾	1 18 @1 18⅝
Friday	1 13⅛@1 11⅞	1 19⅛@1 17⅞
Saturday	1 12¾@1 13¼	1 18¾@1 19⅛
Monday	1 14 @1 16¼	1 20 @1 21⅝
Tuesday	1 16 @1 15	1 20⅜@1 20¼
Wednesday	1 14 @1 13⅛	1 18¾@1 19

Wheat.

The wbeat market has been this week in more encouraging shape for the producing and selling interest than at any previous date since the opening of the current season. Values advanced in all the leading markets for both spot deliveries and futures. The most strength was displayed in the English market, which is a decidedly good feature of the improvement, as it is to Europe we have to look mainly for an outlet for our surplus. Light deliveries and prospects of war in South Africa were assigned as reasons for the advance. The real cause is more likely the belief of foreign buyers that wheat will be no cheaper this season, and that the sooner they get under cover as regards supplying their wants, the better they will be off. Chicago advanced about 1⅛c per bushel, and Liverpool the equivalent of 3½c per cental. In the local market options moved up 4½c for Dec. and 3c for May, with spot values recording an improvement of 50c per ton. The speculative market at this writing (Wednesday noon) shows a relapse in local Call Board prices of 2@3c from extreme figures of the week, but spot market closed steady at advance above noted.

It is encouraging to note that the spot supply of deep-sea tonnage, engaged and disengaged, is on tbe increase. Fully forty ships have arrived here from foreign ports since the middle of September, nearly half the number coming under charter to carry wheat or barley outward, and nearly all the disengaged are seeking business in the same line. On Sunday last ten deep-sea ships came into port. Prior arrival charters ranged from £1 10s to £1 15s per ton to Cork, U. K., for orders, usual option as to final destination, with most of the business about midway between the two extremes. These are high freights, and in the matter of profit are out of all proportion with current values for wheat. A 35-shilling rate is equivalent to $8.40 per ton. The voyage could be made profitably at $6 per ton, and ships have accepted $5 per ton for the same trip. It is better, however, to have ships at current high freights than to have the harbor bare of vessels, as with ships here and engaged, wheat or barley, or Pacific coast products of some sort, must be secured to load them. When vessels are loading wheat, shippers have at times to pay more for this cereal than they calculated, just as on occasions like the present, ships are commanding stiffer figures than seem to be warranted, when all the circumstances bearing on the situation are taken into consideration. Easier freight rates should prevail before the season is over, but ships are nowhere in excessive supply at present, nor are ocean freights low in any part of the world. This is partly due to heavy chartering by the U. S. Government of vessels for the transport service required in the prosecution of the war in the Philippines. Freights for lumber and coal are relatively as much above the normal as they are for grain. The outward movement of wheat for September did not make as good showing as for August or July, although there were more clearances, but mostly only part cargoes and small quantities. Shipments of wheat from this port last month aggregated less than 12,000 tons, which would not be heavy business for a single week in a busy season. It is large, however, when compared with same month last year, only 3960 tons of wheat having been cleared from this port in September, 1898.

California Milling	$1 08¾@1 15
Cal. No. 1 shipping, alongside	1 06¼@1 07½
Oregon Valley	1 06¼@1 10
Walla Walla Blue Stem	1 08¾@1 12½
Walla Walla Club	1 02½@1 10
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.11⅝@1.16¼.

May, 1900, delivery, $1.17⅞@1.21⅝.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.14@1.13⅛; May, 1900, $1.18¾@1.19.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s4½d@-s-d	6s2½d@6s3d
Freight rates	25@27½s	35¾@—s
Local market	$1.15@1.20	$1.07½@1.10

Tbe prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

LOCAL STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on October 1st and September 1st:

Tons—	October 1st.	Sept. 1st.
Wheat	*216,843	149,316
Barley	†83,965	60,591
Oats	4 030	2,832
Corn	120	290

* Including 183,610 tons at Port Costa, and 76,646 tons at Stockton.

† Including 50,955 tons at Port Costa, 23,125 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show an increase of 67,527 tons for month of Sept. A year ago there were 92,030 tons wheat in Call Board warehouses.

Flour.

Altbough not much flour has been produced by Pacific coast mills during the past few months, the supply contiues more than ample for immediate requirements. Demand is only moderate. Prices remain quotably unchanged, although concessions to buyers are perhaps not so numerous or marked as they have been for many months past.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Tbe market for this cereal is firm for desirable shipping grades, and is in much better condition foa the selling and producing interest than is the market for wheat. This bas been the case throughout the season to date. The export movement of barley since the 1st of July has been steadily ahead that of wheat. The barley shipments thus far tbis season foot up about 85,000 tons, including one cargo of over 3000 tons the current week. Shipments of wheat for corresponding period are less tban 41,000 tons, or not half as large as the quantity of barley. Last year at this date the barley shipments for season aggregated only 3500 tons, but for corresponding months two years ago nearly 88,000 tons of this cereal went forward, showing a little beavier export trade in barley than this season. If ships were as plentiful and freights no higber than two years ago, this season's exports would probably have footed up heavier for the past three months than for tbe same quarter in 1897. On local account, trading was not particularly active, and was largely in off qualities of feed, which were offered rather freely as compared with the demand, enabling millers to operate in this description of barley to much better advantage than in the better grades. Prices on Call Board did not show as much fluctuation as preceding week, but speculative values kept tolerably close to the higher figures recently established.

Feed, No. 1 to choice	83¾@ 85
Feed, fair to good	75 @ 80
Brewing, No. 1 to choice	90 @1 00
Chevalier, No. 1 to choice	1 10 @1 15
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 86⅛@84¾c.

December, 1899, delivery, 87@87¾c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, 84¾@85c.

Oats.

The market has presented a rather easy tone, quotable values keeping close to figures last noted, but market was not firm at full current rates. Transfers at top quotations were more the exception than the rule. California oats are not arriving so freely as for some weeks past, but this decrease is being more than offset by the increase in receipts from Oregon and Washington. In fact, these two States are just beginning to forward to this market the current season's product. Offerings are composed of Whites, Grays, Blacks and Reds. There have been no Surprise on market this season worth noting, and quotations for this variety are nominal.

White Oats, fancy feed	1 12½@——
White, good to choice	1 07½@1 10
White, poor to fair	1 05 @1 07½
Gray, common to choice	1 05 @1 10
Milling	1 10 @1 15
Surprise, good to choice	1 15 @1 20
Black Russian	90 @1 00
Red	90 @1 10

Corn.

While there are no particular changes to record in quotable rates, the market is tolerably firm at current quotations, and is likely to incline against buyers until new crop begins to come forward in quotable quantity. Present stocks are of limited volume, and almost wholly Eastern product, and are principally in the hands of local millers. Business doing in spot stocks is mainly of a small jobbing character.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 40 @ —
Eastern Mixed	1 00 @1 02½

Rye.

Tbere is very little arriving. Demand is fair, but buyers' needs are not sufficiently urgent to cause them to bid much of an advance on recent rates.

Good to choice, new	97½@1 00

Buckwheat.

Market is almost bare of supplies and is firm. Especially desirable qualities would probably command custom at higher figures than below quoted.

Good to choice	2 20 @2 30
Silverskin	— @ —

Beans.

Changes in quotable rates or the general tone of the market have not been numerous or pronounced since former review. Receipts continue of light volume and the outward movement is also slow. Buyers who are not in actual need are awaiting developments upon the arrival of new crop stock in wholesale quantity. There is in consequence some uncertainty as to the future of the market for Bayos, Pinks and Lady Washingtons, as it is the general impression that this year's output will be largely of these varieties. Lady Washingtons and Bayos are slightly higher. Prices for Pinks are now reasonable, and it is not likely that any great break from current rates will be experienced. Limas are being held tolerably firm, with very moderate supplies of same in this center. In other varieties there are no appreciable changes to note in quotable rates, most kinds being in sufficiently light stock to relieve holders of any feeling of uneasiness, there being no prospects of noteworthy weakness being developed in the near future.

Pea, fair to good, 100 lbs	2 15 @2 25
Small White, good to choice	2 15 @2 20
Lady Washington	1 75 @1 85
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 00 @2 10
Bayos, good to choice	1 75 @1 85
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 10 @4 25
Black-eye Beans	3 00 @3 25
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Advices by recent mail from New York furnish the following review of the bean market in that center, prices quoted being per 60-lb. bushel:

This has been an interesting week in the bean trade, and higher prices have been established on all but small white. The total receipts have been heavy, but a very considerable part was Canadian stock in bond, most of which has been shipped by our government to Porto Rico. Several carloads have come from Michigan, but the supply from this State is small. Between the export and jobbing demand choice Marrow have cleaned up much more closely, and with country advices quite strong, farmers being too busy to thresh out the new beans, prices have advanced fully 10c a bushel, closing firm. Best lots are now generally held at $1.75, with a few sales at that. Red Kidn y have also climbed upward quite rapidly; the change came early in the week when exporters and dealers picked up the available stock at $1.67½@1.70, and followed the advance up to $1.75; most holders are now asking $1.80, but no business at that as yet. While the position seems to be very firm receivers are inclined to sell promptly as the old beans will be out of favor when new begin to arrive, last year's crop being generally poor so far as quality is concerned. Very few Medium offering and a few jobbing sales reported at $1.40@1.42½. Pea have ruled quiet and barely steady; most of the jobbing sales of old State in barrels and choice new Michigan in bags have been at $1.40, but some car lots have gone a little lower. Scarcely any White Kidney left. Yellow Eye have had sales at $1.45, and more is now asked. Turtle Soup a little firmer in sympathy with other kinds. Further considerable lots of California Lima in this week and the market has been a little soft though values have not changed much; quotable $2.75@2.77½. A couple of cars of new Scotch peas sold at $1.12½@1.15, and the feeling is firm under strong western advices.

Dried Peas.

Arrivals lately have been of fair proportions of both Green dried and Niles. There is inquiry for both kinds, but buyers are rather particular about quality, and when offerings show serious defects, the peas cannot be placed at full current rates.

Green Peas, California	1 75 @2 00
Niles Peas	1 40 @1 50

Wool.

While business in the wool trade continues of a slow order in this center, particularly in grease wools, the prospects are encouraging for more activity before the close of the month. Much of the outward movement lately has been in scoured Spring stock and in pulled wools. Transfers of above descriptions have been at values indicating unmistakably that no material shrinkage has been experienced since trading in Spring fleeces was on active lines. Recently the stocks of grease wool have not been extensive or varied enough to permit of the making up of desirable lots for manufacturers, so there has been little encouragement for wholesale operators to enter the market. With the better grades of Fall now coming upon the market, it is likely there will soon be active purchasing, and that most of the stock of grease wools will in the near future pass out of first hands. At least, if such does not happen to prove the case, it will not be for lack of buyers. Foreign and Eastern markets, more particularly the former, are reported to be in generally healthy condition.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	—@—
Middle Counties	8 @10
Northern, free	9½@11
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

The same waiting attitude as last noted continues to be the chief and about only feature of the hop market. Buyers keep in the background, not caring to assert themselves until it is definitely known just what the world's crop will be. While slow to take a pessimistic view of the situation, the writer fails to perceive encouraging prospects for a firm market or for an active foreign demand for hops this season, but hopes for the benefit of those who have yet to realize on their holdings that these conclusions may not prove to be well founded. They are certainly warranted, however, by existing conditions in the markets of Europe and America.

Good to choice, 1899 crop	9 @12

The following review of the hop market is furnished through mail of a late date by a New York authority:

The New York market has not opened as yet for new hops, and it would be merely guesswork to name prices at which business could probably be done. There seems to be a hesitating feeling all along the line. Brewers are not in need of much stock at present, and the future is so uncertain that dealers are timid about taking hold. We hear of offers to sell hops to brewers for future delivery at all sorts of prices; and this indicates the general uncertainty that pervades the entire trade. In the course of another week or two more definite information as to the world's supply will be available, and operators will have made up their minds as to a fair basis for starting the new crop. There is also a very light trade passing in the 1898 hops, and older growths, but weakness is shown and we further reduce quotations, adding that our outside figures are full high. All the country markets are at a standstill, buyers evidently pursuing a waiting policy. Picking in this State is now finished, and the general opinion is that the crop is at least 25% short of last year. It is difficult to form very positive conclusions of the Pacific coast crop, but we find nothing to warrant any modification or our views given last week. English advices say that new hops are coming on the market and selling slowly at 60s to 120s, which shows a wide range in qualities.

Hay and Straw.

The glut in the hay market continues, and the existing condition is a verification of the old adage that "one extreme follows another." The great shortage last season and the consequent high prices caused every producing section tributary to this market to make hay in wholesale fashion this year, and as a result prices have descended to unprofitably low levels. Despite the low values prevailing, the glut of offerings of common qualities is unprecedented. Receipts are nearly double what they should be for a healthy market, farmers being naturally anxious to get rid of boldings outside of warehouse before the rains set in.

Wheat	6 50@ 9 25
Wheat and Oat	6 00@ 8 50
Oat	6 00@ 8 00
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	—@—
Compressed	7 00@ 9 00
Straw, ₱ bale	25@ 40

Millstuffs.

Most of the flouring mills of the coast have been running very lightly lately, and consequently the market is alimly stocked with offal. Bran and Middlings have been inclining against buyers. Market for Rolled Barley and Milled Corn has been firm at the quotations.

Bran, ₱ ton	16 50@17 50
Middlings	18 00@20 00
Shorts, Oregon	16 50@18 00
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

Market remains firm for Yellow Mustard, with stocks of this variety almost exhausted. Trieste or Brown Mustard is in fair supply and light request. Some think the latter will be taken to make good the shortage in Yellow, but as the two kinds are used for different purposes, there is some doubt about either being made to serve for the other. No movement of consequence is observable in other seeds, and there are no changes of moment to note in prices.

	Per ctl.
Mustard, Trieate	3 15@3 25
Mustard, Yellow	3 75@4 00
Flax	——@——
	Per lb.
Canary	3½@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	—@—

Bags and Bagging.

The call at present in this line is mainly for Bean Bags, and this inquiry is not very active. In Fruit Sacks and also in Wool Bags there is a little doing. Grain Sacks are dormant. Prices throughout remain quotably about as last noted, except for Fruit Sacks, which have advanced.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¾
State Prison bags, per 100	5¼@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@27
Gunnies	—@12¼
Bean bags	4¾@ 5¼
Fruit sacks, cotton	5¾@ 6½

Hides, Pelts and Tallow.

This market is quite firm and is likely to so continue, demand being good and offerings of very moderate volume.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11 @—	10 @—
Medium Steers, 48 to 56 lbs	10 @—	9 @—
Light Steers, under 48 lbs	9½@—	8½@—
Heavy Cow Hides, over 50 lbs	9½@—	8½@—
Light Cow Hides, under 50 lbs	9½@—	8½@—
Wet Salted Kip	9½@—	8½@—
Wet Salted Veal	9½@—	8½@—
Wet Salted Calf	10@—	9 @—
Dry Hides	16½@17	13 @—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13 @—
Dry Calf, under 4 lbs	17@—	13 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	90 @1 25	
Pelts, medium, per skin	60 @ 75	
Pelts, short wool, per skin	30 @ 50	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	
Deer Skins, thin winter	— @ 10	
Elk Hides	10 @ 12	
Tallow, good quality	4½@ 4¾	
Tallow, No. 2	3¾@ 4	
Goat Skins, perfect	30 @ 37½	
Goat Skins, damaged	10 @ 20	
Kid Skins	5 @ 10	

Honey.

The general condition of this market has not changed appreciably since last review. Considering the limited stocks, there is a fair

business doing in both Comb and Extracted, and market is firm at the ruling rates.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

There is no surplus of offerings and not likely to be at any time this season. Values are being well sustained.

Good to choice, light, ℔ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Market for Beef remains quotably about as last noted, with demand not very brisk and the tone easier. Mutton sold at generally unchanged rates, supply and demand fairly balancing. Veal tended downward. Lamb ruled steady, with offerings light. Hogs arrived in about sufficient quantity for immediate use and prices were without important change, but market was not firm.

Beef, 1st quality, dressed, net ℔ lb	7¼@ 7½
Beef, 2d quality	6½@ 7
Beef, 3d quality	6 @ 6½
Mutton—ewes, 6½@7c; wethers	7 @ 7½
Hogs, hard grain fed, medium	5⅝@ 5¾
Hogs, small, fat	5⅝@ 5¾
Hogs, large hard	5½@ 5¾
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ℔ lb	7 @ 9
Veal, large, ℔ lb	8 @—
Lamb, spring, ℔ lb	8 @ 8½

Poultry.

Although considerable Eastern poultry arrived, there was a very fair demand for choice stock of home production, only a light proportion of offerings being of this sort. Some extra large and fat Chickens brought above quotations, as did also very large and fine Young Ducks and Geese. Broilers were in good request. The inquiry for Turkeys was very moderate.

Turkeys, young, ℔ lb	17 @ 18
Turkeys, live hens, ℔ lb	15 @ 16
Turkeys, live gobblers	15 @ 16
Hens, Cal., ℔ doz	4 00 @5 50
Roosters, old	4 50 @5 00
Roosters, young, (full-grown)	4 00 @5 50
Fryers	3 50 @4 00
Broilers, large	3 25 @3 50
Broilers, small	3 00 @3 25
Ducks, ℔ doz	4 00 @6 00
Geese, ℔ pair	1 75 @2 00
Goslings, ℔ pair	1 75 @2 00
Pigeons, Old, ℔ doz	1 25 @1 50
Pigeons, Young	1 75 @2 00

Butter.

There are no heavy supplies of choice to select fresh, just about enough to accommodate the demand at current rates. Values for best qualities are being well sustained at the quoted advance. Defective stock is in slow request at low figures, packed butter being given the preference by most buyers. There is a fair business doing in packed descriptions at generally unchanged rates, with supplies ample for the requirements.

Creamery extras, ℔ lb	27½@—
Creamery firsts	26 @—
Creamery seconds	25 @—
Dairy select	24 @25
Dairy seconds	20 @22½
Dairy, soft and weedy	— @—
Mixed store	14 @16
Creamery in tubs	18 @20
Pickled Roll	18 @20
Firkin, Cal., choice to select	18 @20
Firkin, common to fair	15 @16

Cheese.

Values remain quotably in about same position as a week ago. Market is moderately firm for select new of mild flavor, some brands of high reputation going at an advance on quotable rates. Held cheese is in very good supply and market for same is not particularly firm.

California fancy flat, new	11 @—
California, good to choice	10 @10½
California, fair to good	9 @ 9½
California Cheddar	—@—
California, "Young Americas"	10 @12

Eggs.

Market was lightly stocked with strictly select fresh, uniformly large, white and in every way desirable, such stock being in request at comparatively stiff figures, some favorite marks going above quotations. Of common qualities and ordinary cold storage stock, however, there was a glut, with prices low and irregular for eggs of this description.

California, select, large white and fresh	35 @—
California, select, irregular color & size	27½@32½
California, good to choice store	22½@27½
Eastern, as to section and grading	20 @25
Eastern, cold storage	— @—

Vegetables.

It was the exception the past week where vegetables of any sort met with active inquiry or a firm market. Onions were in good supply and inclined in favor of buyers. Tomatoes were in heavy stock and cheap. Green Corn was in slow request, the quality being in the main rather ordinary.

Asparagus, fancy, ℔ box	—@ —
Asparagus, No. 1, ℔ box	—@ —
Asparagus, common to fair, ℔ box	—@ —
Beans, Wax, ℔ lb	—@ —
Beans, String, ℔ lb	1½@ 2½
Beans, Lima, ℔ lb	2@ 3
Cabbage, choice garden, ℔ 100	50@ 60
Cauliflower, ℔ doz	50@ —
Corn, Alameda, ℔ crate	65@ 1 00
Corn, Green, ℔ sack	40@ 75
Corn, Berkeley, ℔ crate	—@ —
Cucumbers, Alameda, ℔ large box	25@ 50
Cucumbers, ℔ small box	—@ —
Egg Plant, ℔ box	30@ 60
Garlic, new, ℔ lb	2@ 3
Mushrooms, Buttons, ℔ lb	—@ —
Mushrooms, wild, ℔ box	—@ —
Okra, Green, ℔ box	40@ 60
Onions, Yellow, good to choice, cental	65@ 80
Onions, New Red, ℔ cental	—@ —
Peas, Sweet, Garden, ℔ lb	3½@ 4
Peas, common, ℔ lb	—@ —
Peppers, Green Chile, ℔ box	25@ 40
Peppers, Bell, ℔ large box	35@ 50
Pickles, small, ℔ cental	1 50@ 1 75
Pickles, No. 2, ℔ cental	75@ 1 00
Rhubarb, ℔ box	—@ —
Squash, Bay, ℔ large box	—@ —
Squash, Marrowfat, ℔ ton	6 00@ 8 00
Squash, Summer, ℔ box	25@ 40
Tomatoes, River, ℔ box	15@ 25
Tomatoes, Bay, ℔ box	20@ 35

Potatoes.

There was a little better tone to the potato market than during preceding week, demand showing material improvement. Quotations were without very radical change, but full current rates were more readily realized than they were immediately prior to last review. Sweet Potatoes were in increased stock, and market for same was easy.

Burbanks, River, ℔ cental	50 @ 75
Burbanks, Bay counties, ℔ ctl	— @ —
Burbanks, Humboldt	— @ —
River Reds	60 @ 75
Early Rose	50 @ 65
Garnet Chile	60 @ 75
Burbanks, Salinas, ℔ cental	95 @1 10
Sweet River, ℔ cental	1 00 @1 25
Sweet Merced	1 25 @1 50

The Fruit Market.

Fresh Fruits.

The market for fresh fruits is not only showing reduced stocks, but less variety, and these conditions will be still more pronounced in the near future, which is to be expected at this time of year. In a few weeks Apples will be the leading fruit, and they are now occupying a prominent position. While there are fair quantities of Apples in market, strictly select are not readily secured, and buyers in quest of such stock do not hesitate to bid comparatively stiff prices. Extra choice Gravenstein, 4 tiers to box, or equally desirable Apples, are scarce and quotable at $1.25 per box, with higher figures possible in a small way. Most of the business in this fruit, however, is within range of 50c@$1 per box, some very nice goods in the shape of Bellefiowers and Pippins of various kinds, as also sound Spitzenbergs of small to medium size, are selling at 75@90c per 40-lb box in a wholesale way. Wormy and low grade Apples meet with slow custom at 25@40c. Peaches are now in very light receipt and will soon be wholly out of market. For extra choice qualities $1.25@1.50 per box would have been possible from special trade, but such stock was too scarce to be quotable. There was a good demand for all Peaches not inferior, and prices throughout were on a rather high plane. Pears now offering are mostly the late varieties and demand for them is not at the moment very active, nor are prices very firm. Choice Bartletts would have brought good figures, not less than $1.50 per regular size box, but there were virtually none such offering. Plums of a few late kinds are still to be seen, but they are not as a rule sufficiently attractive to be eagerly sought after or to draw forth much competition between buyers. Table Grapes went at much the same range of values as preceding week, but tendency on desirable qualities was to more firmness. The inquiry was good, both on local account and for shipment. Wine Grapes continued in light stock, but demand was slow at top figures quoted. Melons were in good request, the warm weather being favorable for this fruit. Prices for Berries in season were without marked change, buyers in most instances limiting their bids and refusing to operate at higher figures.

Apricots, good to choice Royal, ℔ ton	—@ —
Apricots, Royal, ℔ box	—@ —
Apricots, Pringle, ℔ box	—@ —
Apples, fancy, ℔ 50-lb. box	—@ —
Apples, fancy, 4-tier box	1 00@ 1 25
Apples, good to choice, ℔ 50-lb. box	75@ 90
Apples, Green, common to fair, ℔ 50-lb. box	25@ 50
Blackberries, ℔ chest	4 00@ 6 00
Cantaloupes, ℔ crate	75@ 1 25
Cantaloupes, Nutmeg, ℔ crate	30@ 60
Cherries, Black, ℔ box	—@ —
Cherries, Red, ℔ box	—@ —
Cherries, Royal Anne, ℔ box	—@ —
Cherries, White, ℔ box	—@ —
Crabapples, ℔ small box	—@ —
Currants, ℔ chest	—@ —
Figs, Black, 1-tier box	25@ 50
Figs, White, ℔ box	25@ 50
Gooseberries, ℔ lb	—@ —
Gooseberries, ℔ 10-lb box	—@ —
Grapes, Black, ℔ crate	30@ 60
Grapes, Fontainebleau, ℔ crate	—@ —
Grapes, Muscat, ℔ crate	35@ 60
Grapes, Tokay, ℔ box, 30@50c; ℔ crate	40@ 60
Grapes, Seedless, ℔ box, 50@60; ℔ crate	60@ 70
Grapes, Isabella, @ crate	50@ 75
Grapes, Zinfandel, ℔ ton	22 00@25 00
Grapes, White, ℔ ton	16 00@20 00
Logan Berries, ℔ chest	—@ —
Nectarines, Red, ℔ box	—@ —
Nectarines, White, ℔ box	—@ —
Peaches, fancy wrapped, ℔ box	1 00@ —
Peaches, ℔ box	50@ 90
Pears, Bartlett, No. 1 to choice, ℔ ton	—@ —
Peaches, Clingstone, ℔ ton	—@ —
Peaches, Freestone, ℔ ton	—@ —
Pears, Bartlett, ℔ 40-lb. box, wrapped	1 25@ 1 75
Pears, common, ℔ basket	—@ —
Pears, late varieties, ℔ box	50@ 1 00
Plums, large, ℔ ton	—@ —
Plums, large, ℔ crate	—@ —
Plums, ℔ box	50@ 85
Plums, Cherry, ℔ drawer	—@ —
Pomegranates, ℔ box	40@ 75
Quinces, ℔ box	50@ 75
Raspberries, ℔ crate	—@ —
Raspberries, ℔ chest	4 00@ 6 00
Strawberries, Longworth, ℔ chest	9 00@10 00
Strawberries, Large, ℔ chest	2 50@ 3 50
Watermelons, ℔ 100	6 00@20 00
Whortleberries, ℔ lb	4@ 8

Dried Fruits.

The generally firm condition of the market for cured and evaporated fruits, noted in former review, continues to be manifested. A more active demand and a more healthy tone have seldom been experienced in the dried fruit trade of this center, although higher values have ruled. Prices have also been lower for most kinds. Even the current season much of the early business was done at a lower range of values than now current. Particularly was this the case with Peaches, which is the more noteworthy as deliveries of this fruit for the season up to date have been decidedly larger than of any other variety. The present inquiry is not only active, but may be said to extend to all varieties,



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with market firm throughout at the ruling quotations. Shipments are being made to all quarters of the globe, the movement at prevailing rates being only limited by the ability of dealers to secure and handle the goods, and obtain the necessary transportation. There is every prospect that of nearly every description of tree fruit, other than Prunes, very little stock will be carried into the new year. Figs are now in light supply, particularly fancy pressed, and the market for latter sort is stiff at the quotations. Tendency on Prunes is to more firmness, the recent heavy purchasing on foreign account causing an improved tone, although quotable values at this date are without change. Tuesday's steamer for Victoria, B. C., took 151,000 lbs. dried fruit, exclusive of a small lot of Raisins. The dried fruit movement Eastward by rail is unusually heavy.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10 @12
Apricots, Royal, fancy	12 @13
Apricots, Moorpark	13 @15
Apples, in 50-lb. boxes, rings, pressed, fancy	7 @ 7½
Apples, 50-lb. boxes, rings, pressed, good to choice	6½@ 7
Figs, White, fancy pressed	8 @ 9
Peaches, unpeeled, good to choice	5 @ 6
Peaches, unpeeled, fancy	7 @ 8
Peaches, peeled, in boxes	11 @12½
Pears, unpeeled Bartletts, halved, fancy	10 @11
Pears, halved, unpeeled Bartletts	8 @ 9
Pears, quartered, unpeeled Bartletts	7½@ 8½
Plums, Black, pitted	6 @ 6½
Plums, White and Red, pitted	7 @ 7½
Prunes, in sacks, 40—50's	4½@ 4¾
50—60's	4 @ 4¼
60—70's	3¾@ 4
70—80's	3¼@ 3½
80—90's	2¾@ 3
90—100's	2¼@ 2½
110—130's	1¼@ 2
Prunes in sacks, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.	
4 sizes Santa Claras and equal	3 @—
4 sizes San Joaquin and Northern	2½@ 2¾
Prunes, Silver	4 @ 7

COMMON SUN-DRIED.

Apples, sliced	4@ 5
Apples, quartered	4@ 5
Figs, Black	2@ 3
Figs, White	—@—
Peaches, unpeeled	—@—

Recent advices by mail from New York furnish the following concerning the dried fruit market in the East:

Evaporated apples are gradually increasing in supply and with a fair jobbing trade, market is quite firm for desirable grades. Most fruit, however, is of poor quality and selling low, though feeling is stronger on these common grades than it was a week ago and some stock which sold down to 6@6¼c last week has changed hands again this week at 6½c and higher. Strictly prime when found commands 7c and really choice would be difficult to buy under 8c though so few sales making at these figures that they appear extreme. Crop reports continue unfavorable, the government report for September giving a lower percentage for September 1 than August 1 for every State in the country having three million or more trees expect Indiana, which held unchanged. The month's decline in condition in New York was 3 points, Pennsylvania, North Carolina and Ohio 1 point, Tennessee 9 points, Virginia and Kentucky 2 points, Missouri 4 points, Maine and Illinois 5 points, Michigan 8 points, Iowa 20 points and Kansas 11 points. Speculators bid 6¾c for prime wood-dried for latter delivery but ⅛@¼c more is generally asked. Sun-dried apples are more plenty but not much doing and prices hold about the same. Spot chops and waste in larger supply and dull at former prices. Raspberries quiet and barely steady. Huckleberries scarce and higher and occasionally held above quotations. Blackberries steady and cherries firm though 11c rather extreme. California fruit is meeting a very good demand at full late prices.

Apricots, Cal. Moorpark, 1899, per lb	14 @16
Apricots, Cal. Royal, 1899, per lb	12 @13
Peaches, Cal., 1899, unpeeled, in boxs. lb	7¾@9
Peaches, Cal., 1899, unpeeled, in bags, lb	8 @ 8½
Prunes, Cal., 1898, per lb	3 @ 8

Raisins.

There is a very fair business doing in new crop Raisins at the advanced rates recently established by the Growers' Association. The market is almost bare of old stock, and dealers are anxious for early deliveries of new to satisfy the mid-winter holiday demand. The weather of the current week could not well have been more favorable for ripening and curing.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ℔ box	$3 00@—
Do do 5-crown, ℔ box	2 50@—
Do do 4-crown, ℔ box	2 00@—
Do do 3 crown, ℔ box	1 60@—
Do do 2-crown, ℔ box	1 50@—
Valencia layers, ℔ 20-lb box	80@1 00
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	6½@ —
Loose Muscatel, 3-crown	6 @ —
Loose Muscatel, 2-crown	5½@ —
Loose Muscatel, ungraded	—@ —
(Above prices for loose raisins are for 50-lb boxes.)	
Dried Grapes	—@ —

Thompson Seedless.—Bleached fancy, ℔ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ℔ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Citrus Fruits.

Oranges are virtually out of stock. Lemon market has continued to show firmness, the warm weather of the current week favoring the sale of this fruit. Limes on market were mostly in poor order, and for choice stock fully as high prices as last quoted were asked.

Lemons—Cal., select, ℔ box	3 50@ 4 00
Cal., good to choice	2 50@ 3 00
Cal., common to good	2 00@ 2 50
Limes—Mexican, ℔ box	8 00@ 9 00
Cal., small box	—@ —

Nuts.

Almond market is strong at the quotations, the crop having been disposed of. Market for Walnuts is also very firm, most of the crop having been already placed, although deliveries will not be made until about the middle of the month. Peanuts continue in scanty supply.

California Almonds, shelled	—@—
California Almonds, paper shell, ℔ lb	12 @14
California Almonds, soft shell	10 @11
California Almonds, hard shell	6 @ 8
Walnuts White, paper shell	10 @11
Walnuts White, soft shell	9½@10
Wainuts White, Cal., standard	8½@ 9
Chestnuts, Cal. Italian	—@—
Peanuts, Cal., fair to prime	5½@ 6½
Peanuts, Eastern hand-picked	6½@ 7½
Pine Nuts	5 @ 8

Wine.

With wine now mostly out of first hands there is little opportunity for noteworthy business in the wholesale market. The outward movement by land and sea continues of fair volume. The market has a strong tone, and while there is nothing reported in the way of transactions to warrant advancing recent quotations,—15@20c per gallon, San Francisco delivery, as to quality, quantity, etc,—higher rates are certain to rule for coming vintage. That wine will be soon again as low as during the greater part of the past twenty years is altogether improbable.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the Pacific Rural Press to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	126,799	1,429,642	1,167,200
Wheat, ctls	40,248	1,046,114	840,076
Barley, ctls	158,404	2,150,069	419,057
Oats, ctls	22,735	218,762	160,340
Corn ctls	3,610	27 880	38,650
Rye, ctls	460	56,257	5,625
Beans, sks	5,113	47,265	77,849
Potatoes, sks	22,840	279,928	273,205
Onions, sks	5,917	65,189	63,252
Hay, tons	5,800	55,544	55,743
Wool, bales	1,275	18,725	17,507
Hops, bales	784	2,656	3,285

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	18,128	781,579	765,748
Wheat, ctls	27,614	801,020	504,843
Barley, ctls	121,384	1,608,925	70,579
Oats, ctls	108	12,388	6,921
Corn, ctls	48	4,035	4,716
Beans, sks	294	4,976	42,511
Hay, bales	285	22,913	12,856
Wool, lbs	382,370	458,361	587,901
Hops, lbs	3,094	192,659	377,537
Honey, cases	526	2,029	2,665
Potatoes, pkgs	524	14,068	13,137

California Dried Fruit at New York

NEW YORK, Oct. 4.—California dried fruits: Market quiet and steady. Evaporated apples, common, 7½c; prime wire tray, 7½@8½c; choice, 8¾@9c; fancy, 9@9¼c.
Prunes, 3½@8c.
Apricots, Royal, 12@13½c; Moorpark, 14@16c.
Peaches unpeeled, 7¾@9c; peeled, —@—c

The advertisement of A. C. Brosius of Cochraneville, Pa., makes its first appearance in this issue of our paper for the new season's business. Our readers will remember this gentleman as being the manufacturer of the now famous dehorning knife, which has been of such great value to stockmen everywhere. This is the dehorner which took highest award at the World's Fair. It differs from all other devices of its class in the fact that it cuts evenly from four sides at once. This prevents all bruising and crushing of the horn and constitutes the most humane way of removing the horns. Then, too, it is such a quick and safe way for both man and animal. Write Mr. Brosius for circulars, prices, etc.

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THE PUBLIC LANDS.

Leasing the Public Grazing Lands.

Read at the convention of the American Forestry Association in Los Angeles, by ELWOOD MEAD, Irrigation Expert in charge of the irrigation investigation of the United States Department of Agriculture.

The reclamation of the West requires something more than money to dig ditches or sink wells. The management of the arid public land requires something more than a homestead law. After a canal has been dug we need such control of the river that fills it, and protection of the mountain storehouse that in turn fills the river, as will secure to those who plant trees and build homes not a water supply for a year but for all time.

The problems of irrigation and of water supply reach from the mountain summits where streams rise to the staked plains where none exist. They include the forest and pasture lands as well as the areas which can be reclaimed by irrigation. I desire to call your attention to the need of laws for the management and protection of the public grazing lands, and in so doing to point out a means by which funds for caring for the forests and watering the plains can in large part be secured. It is my purpose to give some reasons why the public grazing lands should be leased and the rentals received used for extending the irrigated area and protecting and bettering our sources of water supply. In doing this I shall describe conditions which prevail in the greater part of the arid region.

Natural Pasture Lands.—The lands which can be irrigated comprise only a small fraction of the remaining public domain. Of the half billion acres remaining not one acre in ten can be reclaimed—over 90% must forever remain arid. Whoever visits this region realizes how vast are the stretches of hill and plain covered with scanty grass or stunted brush, and how narrow the stretches of green which mark the limits of the irrigator's handiwork.

These unreclaimed areas adjoin or surround the irrigable lands. They are not now subject to any sort of management or control, but are an open common, with no laws or regulations to limit the use made of them or to protect them from spoliation from continuous overstocking. Those ranging stock thereon pay nothing for the privilege either in the way of rent or taxes, and, having no security of tenure, make no improvements. It is a situation, therefore, which is manifestly unjust to the taxpayers who have to bear the burden of maintaining law and order over these lands. In several States they comprise over three-fourths of the entire area.

Nor is the lot of their users an altogether happy one. To get something for nothing is attractive, and the privilege of grazing over all the territory one can travel over in a month's journey has led many people to seek to enjoy it. As a result the ranges have been overstocked for several years, and the difficulty which confronted Abraham and Lot when they had many cattle and but little land has been often experienced by stockmen on the open range.

Present Evils.—As no one can have exclusive possession, stockmen crowd each other to secure the desirable ranges. Where there is not room for all, those crowded out move on and displace others. So long as there is no security of tenure, no one will make any sort of improvements.

As a result, these lands look just as they did when the Indian left them, and if the open range as an institution is continued for a thousand years the lands grazed over will be less attractive and give less grass than they do to-day. In fact, present conditions are a direct incentive to spoliation. They lead everyone to make all he can out of the present without regard to future consequences. The result of this has been that overstocking and continuous pasturage has in many cases led to the complete destruction of the native grasses. The removal of the forests from the mountains is not more certain than the destruction of the free grass on the plains unless there is some sort of protective legislation enacted, while with the diminished value and increasing use of these lands we are certain to witness a constant increase in the number and seriousness of the conflicts for possession.

The conflict between the owners of cattle and sheep will only end with the survival of the fittest, and in this the sheepman has the advantage. Wherever his flocks go the range steer disappears. In many sections he is now only a memory like the buffalo. Some of the leading stock raising States have less than half the cattle they had ten years ago, notwithstanding the increase in irrigated land.

The Remedy.—To end these evils there must be some permanence of possession and restriction in the use of these lands. The best way to secure this, in my opinion, is to lease these lands, the general Government retaining the title thereto, but giving the States that desire to accept the trust the right to rent them and apply the proceeds to the building of canals and reservoirs, and to the conservation of our irrigation resources in other ways.

I would urge the leasing of these lands—first, because it will end range conflicts and preserve the grass. I would urge it because now the people who use the land make no improvements. Lessees would at least build fences. They will do more, but if rented even at a low rate the income from this vast area will be a sum so large as to seem incredible to those who have not studied this question, and in comparison to the fact that not one cent is now received. In some States it would be more than double the sum now collected by taxes for State purposes, notwithstanding the vast areas of free lands in these States. Colorado rents the grazing land the State owns for 5 cents an acre and over. Wyoming secures from 2½ to 5 cents. Montana is renting pasture land for $50 per section. Dakota rentals vary from 1 to 3 cents an acre. Land in New Mexico is free, but land in Texas along the border rents for 3 cents an acre.

Use for the Income.—At a low rental, therefore, a leasing system will be productive of several million dollars per year. If this can be applied to the conservation of the resources of the States where these lands are located, it will permit of the protection of forests and provide funds to carry on the State supervision of irrigation in States where water is under public control, without this work being a burden to the general taxpayer, and finally it will build irrigation works of too great cost for private enterprise. That we have reached a point in our irrigation development where such aid is needed will, I believe, soon be generally conceded.

Reclamation Difficult.—For more than ten years it has been my business as engineer of one of the States wholly arid to aid in every way possible in the building of ditches and increasing the number of irrigated farms. The result has not been encouraging. Progress has been slow. Sanguine investors in canals have built large and costly works, only to lose their money. Settlers possessed of industry and economy and but little else, and hoping thereby to achieve landed independence, have attempted to transform the sagebrush and cactus waste into grain fields and orchards. In far too many instances they have found that building a house, leveling their lands, grubbing the sagebrush, digging laterals and doing the hundred and one toilsome things which go with this conquest of aridity have been all the burden they could bear, without having added thereto a heavy annual charge for the water used or a larger indebtedness for a share in a canal. Where they have tried to carry both they have subjected themselves and their families to hardship and privation, with ultimate failure in the end, which has seemed to me as unjust as it has been painful to contemplate.

Help for Those Who Need Help.—We have not as yet properly appreciated the seriousness of obstacles which confront the settler on arid land, nor have we been liberal enough in rewarding him for the conquest which reclamation involves. Whoever makes these worthless solitudes into the homes of men is a benefactor of the whole country, and should be treated as such. It is my conviction that in order to do this, and to make of our remaining public lands the hope and opportunity of poor men, we must have cheaper irrigation ditches and a cheaper and better water supply for irrigated farms than private enterprise can furnish. To do this requires something more than sympathy and good advice. It takes money to buy flour, and nothing but public money expended without any expectation of a direct return will provide for the efficient division of a river among its users, or build ditches which he can afford to own or use. In this regard California, with her valuable products and high water rates, is possibly an exception; but in the interior, and where land and products are less valuable, I do not think we can honestly invite the private investment of capital to build large irrigation works. To do so means one of two things. Either that the money expended will be lost by the canal builder, or the farmers who pay the cost will carry a burden greater than they should justly bear.

What the State Can Do.—The State can do, however, what the individual cannot afford to do, because it is a large gainer from the indirect return which comes from the increase of taxable and productive wealth which every acre of land reclaimed secures, in which the private investor has no share. But, in order for States to do this, money must come from somewhere, and State or national money does not grow on trees. Farmers in other sections, or men in other callings, may object to appropriations from national or State treasuries which are raised by taxation, but they can have no just ground to object to the expenditures of funds coming from the rentals of these lands from which nothing is now received. Utilizing a neglected resource affords an opportunity for storing our wasted waters and reclaiming our arid land without calling on any one for aid or for raising a dollar by direct taxation. Even those who pay these rentals would not regard doing so as a burden; on the contrary, the opportunity to make these leases is now being clamored for as a privilege.

Ills of the Open Range.—The experience of the States where grazing lands are leased has shown that the indirect benefits are not less marked than that arising for the rentals. In many parts of the arid region irrigation is profitable only when combined with stock-raising. In such sections the opportunity to utilize the grazing lands is almost as indispensable to the success of irrigation as a water supply. This cannot now be depended upon. Migratory flocks graze close to settlers' fences, and, with the loss of the contiguous pasturage, there comes too often the abandonment of the irrigated farm. The conflicts arising from this cause are too various and of too frequent occurrence to be disregarded.

Along the northern border of the arid region the open range business, as at present conducted, is often hazardous and cruel. Stock is left to pasture on these ranges from one year's end to another without any provision being made for feed or shelter. It needs no argument to show the profit which comes from planting a calf and harvesting a steer, without a dollar's outlay for feed or care in winter or rent for the land he feeds upon—simply a branding iron to begin and a rope to end the process; but doing this means that helpless and dependent animals must in winter shiver and suffer through the icy blasts which sweep over these plains, without rest or relief. Pain is pain, and because an animal is silent is no reason its suffering should be disregarded. A business which makes of every winter a gamble with death by cold and starvation ought not to be continued. Last winter there were days and days in which sheep starved to death by the thousands, and the total losses would have paid for land leases and feed for winter for years to come.

I hope to see a leasing system inaugurated which will bring about a union of the irrigable and non-irrigable lands and put an end to dependence on the open ranges, bring about winter feeding and the adoption of more humane and kindly methods than were possible in the pioneer days.

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Notes on the Fair at Stockton, Cal.

By a Staff Correspondent.

One of the successful fairs of the season closed at Stockton on Saturday, September 30th. It had been in session for two weeks, the first week having been marked by racing and a stock exhibit. The displays were continued at the pavilion during the second week. Although many of the horses which participated in the races were the same as those taking part in the races at Sacramento during the State Fair, the attendance attracted was not commensurate with the expense incurred, and the race portion of the programme was a losing proposition. But at the pavilion matters were different. There were accumulated more and finer displays than had been exhibited in Stockton for many years, and through added attractions of cake walks, stereoptican views, etc., the attendance was brought up to figures never before equalled.

The Fair was given this year, as it was in 1898, under the auspices of the Stockton Driving Club, composed of the following gentlemen: Geo. E. Cutts, president; J. W. Willey, secretary; W. C. Neumiller, H. E. Adams, C. E. Doan. The Second District Agricultural Society, whose province it would naturally be to give the annual fairs at Stockton, is so heavily weighted with debt that it is unable to exercise any of the functions of life, even when it receives a subsidy from the State, as it did this year. So this club of enterprising citizens took the matter in hand, painted and renovated the pavilion, enlisted public interest, and by careful management made the Fair for 1899 a great success. Every foot of floor space in the pavilion was occupied, and there were 150 exhibitors. Floor space was given free, but no premiums or diplomas were offered.

The pavilion is in the form of a Maltese cross, and occupies an entire block near the center of the city. The north and south wings were filled with machinery, vehicles and the heavier class of exhibits. In this line the displays were in some respects equal or superior to those at the State Fair. The center of the building was arranged in two main aisles, extending from east to west, with commercial exhibits on either side. Other exhibits of a similar nature were in the gallery. Bunting and streamers gave a festive look to the interior of the building. All of the exhibits were tastefully arranged, and many were very showy. The art gallery occupied the north wing. Here also was arranged a dancing floor, and after ten o'clock each evening, until the doors were closed for the night, the young people were privileged to engage in the intricacies of the mazy waltz or the lively polka.

An exhibit in the south wing, of work performed by students in the public schools, attracted much attention. It illustrated that Stockton's schools are in the van when it comes to progressive, up-to-date work. A fine band of musicians, under the leadership of Prof. Neale of Sacramento, helped to enliven all sessions of the Fair, and both exhibitors and attendants declared that, as fairs go, this event came as near fulfilling expectations as any exhibition ever given in Stockton.

Stockton Woolen Mills.

No exhibit at the Stockton Fair attracted more attention or was accorded more deserved praise than that made by the Stockton Wolen Mills. It was stationed to the right of the main entrance and covered on area of 45x45 feet. The entire space was curtained off from the main hall by woolen blankets of various texture and color, suspended in portiere style from gilded railing. Within the enclosure, around two sides, as well as in glass cases in the center, were some of the superlatively fine blankets manufactured by this company. On the other two sides, and in a pyramid near the center, were draped or plied samples of cassimeres, suitings, flannels, etc. A loom was kept busily at work weaving cloth during the afternoon and evening sessions of the Fair. Altogether, the exhibit was a strong object lesson, illustrating the extent of the industry and the excellence of product turned out by this company. It served, in an emphatic way to call attention to the retail department of the mills. Here one could see not only the finished fabrics which the company put into their manufactured clothing, but the weaving of the cloth, demonstrating that the goods are genuine, from start to finish. The company do a large business in their retail department, and took many orders for custom-made clothing at the Stockton Fair. The mills are an industry which contribute much to the fame of the inland city, and of which the people are justly proud. The works furnish situations for 175 operatives, who are employed during the entire year.

Stockton Business College.

As one scanned the exhibits of the various business schools of Stockton displayed at the Fair, he could not fail to be impressed with the difference that was apparent. In some there was a good display of furniture and other inanimate objects, but a lack of life and soul. In the booth set apart for the Stockton Business College this appearance of things was reversed. All was animation, push, practical energy. Even the specimens of workmanship on the wall seemed to be invested with this characteristic of practicability. For here, at one of the tables within the enclosure, sat adept penmen—graduates of the school—forming characters as beautiful as any displayed upon the walls. They wrote cards for the children and grown folk, who crowded around this interesting booth. The people were anxious to see this demonstration of perfection on the part of pupils, following as a result of thoroughness on the part of instructors. Few exhibits in the Fair attracted like attention. The manner in which the work of the school was presented, and the scope of its instruction, as evidenced by the exhibits, indicated that this institution holds a high place among the business schools of California. It is pervaded by an air of business solidity. Everything is up-to-date, both in methods of instruction and in the things taught. If there were any doubt as to its being the "old reliable" business school of Stockton, that doubt would be dispelled by noting the names of so many children of leading citizens of Stockton and San Joaquin county enrolled as students. Those who desire their business education to have a solid foundation make no mistake when they attend Stockton Business College. Its Principal is W. C. Ramsey, and he has able assistants in all departments.

Grand Central Hotel.

The Grand Central Hotel of Stockton is now one of the successful bidders for the patronage of the public in that enterprising city. The management of the house has recently passed to Van Loon & Sons, experienced hotel men, formerly proprietors of the Magnolia Hotel, Calistoga, Cal. The Grand Central has sixty-eight rooms, arranged so that they may be used ensuite or single. These rooms Mr. Van Loon has had thoroughly renovated and refurnished, so that they are attractive and convenient.

The location of the Grand Central makes it an especially desirable family hotel, it being a trifle aside from the bustle and noise of a principal business street. Its dining room is 40x80 feet in dimensions, and will seat 200 guests. The table is looked after with great care and ranks high among the hotels of the Inland City. Assisted by Mrs. Van Loon and his three sons, the present proprietor proposes, through strict attention to the desires of his guests, to make the Grand Central one of the most popular hotels in central California. The white 'bus meets all trains and boats arriving in Stockton, and no person will make a mistake in going to the Grand Central. Rates are from $1 to $2 per day, depending upon room, with special prices for families or those desiring to board by the week or month.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s Scientific Press U. S. and Foreign Patent Agency, the following are worthy of special mention:

Stamp and Roller Crusher and Pulverizer.—A. J. Petter, Randsburg, Cal. No. 633,248. Dated Sept. 19, 1899. This invention relates to an apparatus for crushing and pulverizing ores. It consists of a circular mortar having an annular die fixed therein, stamps, the stems of which are guided in a frame which is rotatable about a central shaft. Rollers are journaled upon the revoluble frame between the stamps having faces adapted to travel upon the dies. A mechanism is carried upon the revolving frame including horizontal shafts and gears and cams on the shafts so that the stamps are raised and allowed to fall while the apparatus is revolving, the rollers following the stamps and adding their crushing effect. Suitable screens are arranged around the periphery of the mortar for the discharge of the pulp when it has been sufficiently reduced and the rollers are carried upon the lower ends of spring-pressed standards by which any pressure upon the rolling faces may be produced.

Car and Portable Turntable.—George A. Dunn and R. F. Dunn, Dinuba, Cal. No. 633,235. Dated Sept. 19, 1899. This invention is designed for use in handling fruit or other goods which are to be moved from place to place, and comprises a car having two frames, the lower one mounted upon bearing wheels which travel upon a track, and the upper portion has a mechanism by which it may be raised or depressed, and a turntable attached thereto and carried thereby, with mechanism by which it may be raised from the surface when the upper portion of the car is raised, the car then traveling in any desired direction upon its rollers. When it arrives at a point where it is to be turned to travel at right angles, or in some other direction, the turntable is pressed down at the center of the meeting tracks, and the whole of the lower part of the frame and wheels are lifted from the surface and can then be swiveled around upon this portable turntable until the car stands in line with the new direction in which it is to travel. The wheeled frame is then lowered upon the tracks and the turntable being lifted clear of the surface, the car is ready to travel in its new direction.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPTEMBER 19, 1899.

633,409.—Bicycle Driving Gear—W. H. Abercromhie, Tacoma, Wash.
633,227.—Hat Hook—W. S. Bractie, Oakland, Cal.
633,420.—Saw Gauge—J. Brown, Rockwood, Ogn.
633,984.—Water Wheel—W. A. Dohle, S. F.
633,285.—Car and Turn Table—G. A. and R. F. Dunn, Dinuha, Cal.
633,440.—Draft Appliance—G. N. Farnsworth, Grimes, Cal.
633,548.—Scoring Tool—O. C. Fenlason, Hoqulum, Cal.
633,441.—Oil Can—W. E. Forest, Los Angeles, Cal.
633,263.—Surveyor's Instrument—D. Grant. Petaluma, Cal.
633,264.—Invalid's Bed—G. Huntington, Santa Ana, Cal.
634,267.—Cultivator—Jensen & Rowe, Watsonville, Cal.
633,382.—Eye Glass Frame—H. L. King, Spokane, Wash.
633,461.—Door Securer—O. Kure, Chehalis, Wash.
633,247.—Lemon Squeezer—E. D. Middlekauff, S. F.
633,530.—Hop Bin—L. M. Meyers, Newberg, Ogn.
633,290.—Sliding Door—A. Newell, Pasadena, Cal.
633,291.—Sliding Door—A. Newell, Pasadena, Cal.
633,292.—Tobacco Pipe—I. Nicholson, Vallejo, Cal.
633,474.—Rotary Pump—R. J. Northam, Los Angeles, Cal.
633,475.—Rotary Pump—R. J. Northam, Los Angeles, Cal.
633,476.—Rotary Pump—R. J. Northam, Los Angeles, Cal.
633,477.—Rotary Pump—R. J. Northam, Los Angeles, Cal.
633,478.—Electric Motor—Northam & Nolan, Los Angeles, Cal.
633,248.—Roller Crusher—A. J. Petter, Randsburg, Cal.
633,153.—Matcher Head—W. W. Philbrick, Seattle, Wash.
633,154.—Matcher Head—W. W. Philbrick, Seattle, Wash.
633,489.—Sharpening Files—J. F. Revalt, S. F.
633,493.—Rein Holder—J. G. Ryckman, Knappa, Ogn.
633,537.—Leak Stopper—S. M. Stewart, Escondido, Cal.
633,254.—Concentrator—F. W. Wood, Los Angeles, Cal.
31,515.—Design, Badge—W. S. Tarrant, Seattle, Wash.

Note.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

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Patrons of Husbandry.

State Grange Meeting.

The California State Grange opened in due form in Odd Fellows' Hall, Napa, on Tuesday morning, October 3rd. There were present the following State officers:

Master, W. W. Greer of Sacramento; Overseer, G. W. Worthen of San Jose; Lecturer, John L. Beecher, Jr., of Stockton, Steward, E. C. Shoemaker of Visalia; Assistant Steward, I. C. Steele, Jr., of Pescadero; Chaplain, Mrs. S. H. Dewey of Oakland; Treasurer, A. D. Logan of San Francisco; Secretary, Miss Mattie Maholm of Sheldon; Gatekeeper, M. D. Hopkins of Petaluma; Pomona, Miss Olga Christensen of San Lorenzo; Flora, Miss Adah L. Ross of San Jose; Ceres, Mrs. Olive Allen of Santa Rosa; Lady Assistant Steward, Mrs. J. D. Gould of Roseville; Organist, Miss Delma Green of Courtland; and Cyrus Jones of San Jose and H. F. Blohm of Watsonville, members of the Executive Committee.

Membership.—Besides the above officers, fifty-six members of various Granges throughout the State answered the roll call. The following is the list of regular delegates:

Alhambra—H. C. Raap.
American River—N. H. Lauredson and wife.
Antelope—H. A. Logan.
Capital—Geo. W. White.
Danville—R. O. Baldwin and wife.
Eden—Mrs. Phillipson.
Elk Grove—L. Schelmeyer and wife.
Enterprise—A. M. Plummer.
Florin—T. E. Davis and wife.
Glen Ellen—R. G. Sutherland and wife.
Grass Valley—O. L. Twitchell and wife.
Geyserville—W. V. Griffith and wife.
Highland—Mrs. D. Adams.
Fair Oaks—T. W. Ward and wife.
Live Oak—A. G. Fultz.
Los Gatos—Dr. J. Lemon.
Magnolia—C. D. Bilderbeck.
Napa—A. D. Butler.
Pescadero—B. Haywaad and C. S. Hayward.
Petaluma—G. W. Park and wife.
Progressive—A. E. Burnham and wife.
Roseville—J. D. Gould and wife.
Sacramento—J. H. Hayden and wife.
Sacramento Pomona—Jno. Reese and wife.
San Jose—Hugh Leigh and wife.
Santa Rosa—M. B. Mack and wife.
Selma—J. J. Roadhouse.
Stockton—N. H. Root and wife.
Temescal—Chas. W. Emery.
Tulare—Thos. Jacob.
Two Rock—J. C. Purvine and wife.
Watsonville—G. W. Rowe and wife.
Sonoma Pomona—W. D. Houx and wife.
San Joaquin Pomona—J. L. Beecher and wife.

Committees.—Miss Laura S. Woodhams of San Jose was elected Minute Secretary for the session, and the Master appointed the following committees:

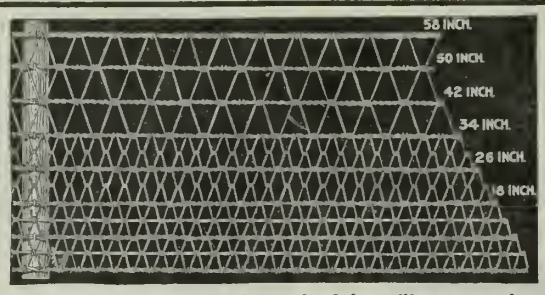
Division of Labor—S. T. Coulter, A. J. Roadhouse, Geo. White, Mrs. S. P. Saunders and Mrs. R. S. Twitchell.

Credentials—C. E. Emery, H. C. Raap, L. Schelmeyer, Mrs. A. J. Burnham and Mrs. T. W. Ward.

The entire day was devoted to the hearing of reports from State officers and exemplification of ritualistic work.

Master Greer delivered his annual address, which was printed and distributed among the delegates. In the course of his remarks he recalled the fact that Napa is the birthplace of the Order in this State.

Other proceedings will appear later.



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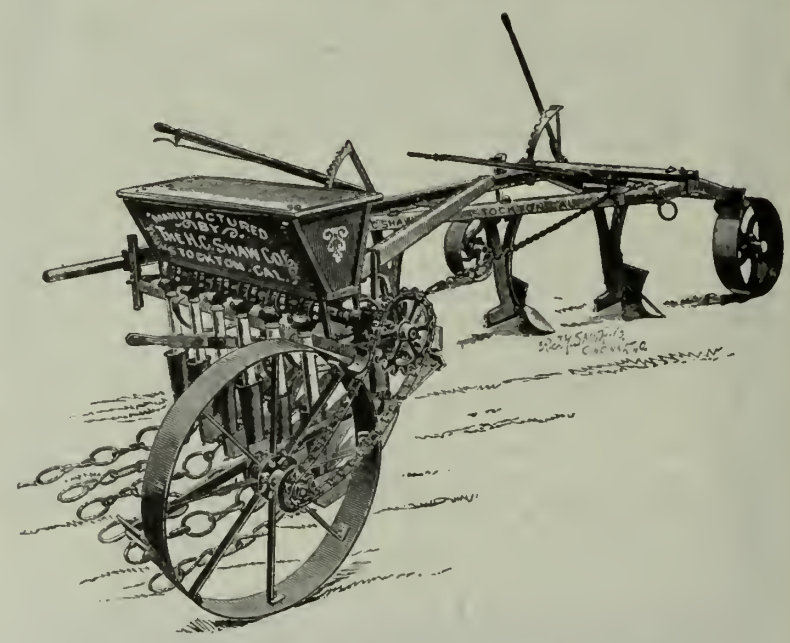
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THE FEED ADJUSTING LEVER enables the operator to adjust instantly the quantity of seed sown.
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NEVER FAILING METHOD of driving feed by chain direct from hub of Castor Wheel.
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It is an established fact which has been proven by experience that grain planted with the **Shaw Force-Feed Plow Drill** will withstand drouth better than grain sown by any other method.

The Wind does not affect the seeding done by the **Shaw Force-Feed Plow Drill.**

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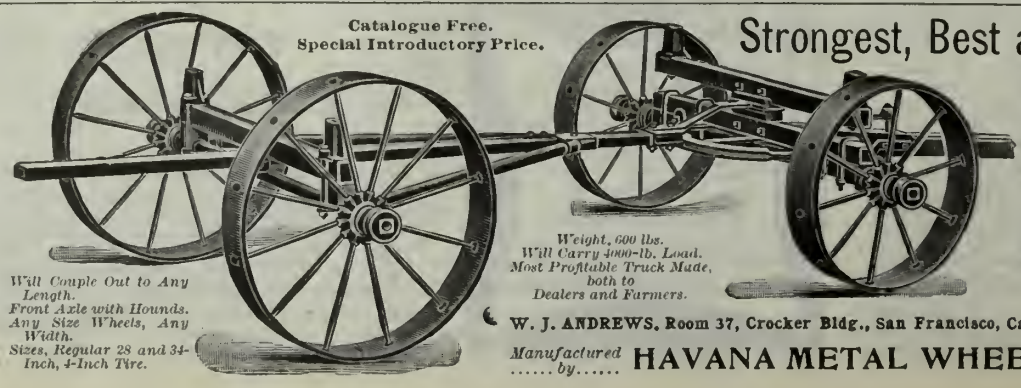
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E. Booth is also a large shipper from Florin. He will ship about 80 cars the present season. Mr. Booth pronounces this the banner year for Florin fruit growers and shippers.

In the height of the strawberry season Florin is also a very busy point. This is from the 15th of April to the 1st of June. The present season more than 20 carloads were sent out, mostly to Oregon, Washington, Montana and Idaho, in which regions the strawberry crop is several weeks later than in California. Each car contained from 1000 to 1100 crates of berries. The strawberry crop is irrigated with water drawn by windmills from wells. Hence so many windmills in this section of the county, suggesting a ride through a portion of Holland.

W. H. Wason is one of the most successful strawberry growers near Florin and is also one of the pioneers in the industry. For the season of 1899 he shipped nearly 7000 crates. By intelligent culture he obtains exceptional yields. Three years ago, in a specially favorable season, he gathered fourteen tons of berries (Triumphs) from three and one-half acres of land. Mr. Wason rightly thinks this result entitles him to the strawberry banner.

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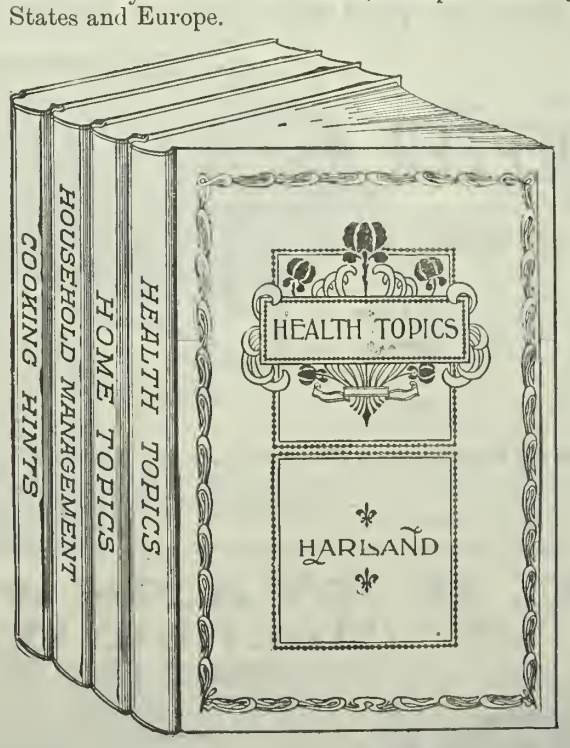
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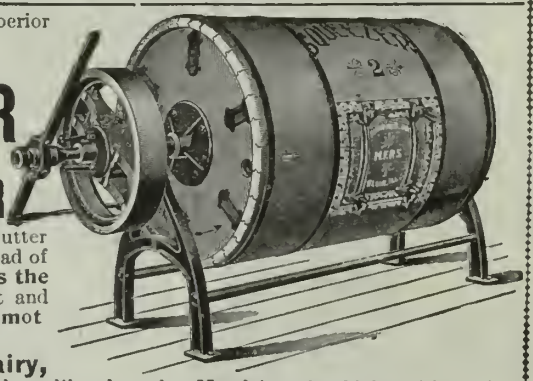
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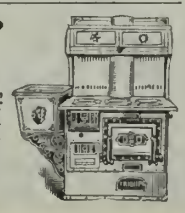
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Vol. LVIII. No. 16 SAN FRANCISCO, SATURDAY, OCTOBER 14, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

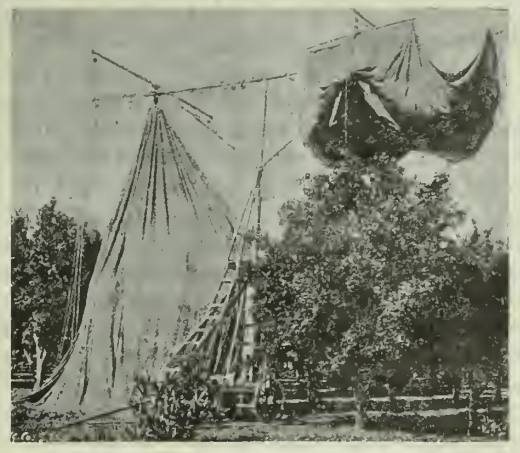
Other Appliances for Fumigation.

We gave recently a group of illustrations showing the practice of fumigation for the killing of scale insects as followed by the citrus fruit growers of southern California. The pamphlet on this subject by Prof. Woodworth, which is issued as Bulletin 122 of the University Experiment Station, contains the fullest and most detailed account of the practice which has ever been published. Popular interest pertains to the matter because it is the ruling method of coping with some of the very worst scales, which are well nigh invulnerable by other treatments, and the results are so satisfactory that professional fumigators with very complete outfits have no trouble in making contracts which keep them busy all through the fumigating season.

It is now the time when the work is chiefly done and it will continue through the next two or three months. In our last reference to fumigation we gave engravings showing the large and small hoop tents and the method of handling them. On this page we have a showing of other forms of tree covers. The first is the "bell tent." Bell tents are cylindrical in shape, with the top rounded over like a dome. They are used in connection with a derrick, by means of which they are placed upon and lifted from trees; the derrick also supports the weight of the tent while it is upon the tree. The bell tent was one of the original forms of tents, and while mostly supplanted by other styles, is still used to a considerable extent, especially for very large trees. It is the only form of tent now in use where the whole weight of the tent is not carried by the tree, and many favor it for this reason.

The box tent is an Eastern idea devised for use on deciduous trees in which the wood is less pliable and more easily broken than are citrus trees. The box tent is somewhat intermediate between the bell, or hoop tent, and a sheet tent. It has something of the shape of the hoop tent, but flaring beneath and without anything stiff at the bottom. It is made with a square top-piece and with four sides, which are a half larger at the bottom than at the top. The manipulation of this tent is accomplished by the use of a pole called the "lifter."

The form that Prof. Woodworth thinks most likely to replace all others is the sheet tent. It is the simplest to make, the most readily adaptable to all sizes of trees, and is almost as readily moved from tree to tree as the hoop tent. It contains, however, a great deal of useless canvas, which is an objection to the economical mind. Sheet tents are made either in a regular or in an oval hexagon, and perfectly flat. A pair of rings is often attached on each side, near what is intended as the front edge; it is convenient to attach these rings by iron links, so that they can be rattled and found in the dark by shaking the tent. The movement of the tent is accomplished by the use of two poles. These are usually simple poles with a small rod projecting from the upper end, over which the ring of the tent is slipped; a rope is also fastened at the upper end. The length of the pole is slightly greater than the height of the trees it is desired to cover. Sometimes the pole has the same shape as the lifter used for the box tents, but the pulleys and guy ropes are not needed, except for the largest trees. The engravings show the method of adjusting the sheet tent. The other engravings show the chemical outfit of the fumigator and the method of starting the generation of the poisonous gas under a hoop tent.



The Bell Tents and Derrick.



The Box Tent and the Chief Chemist.



Beginning to Lift the Sheet Tent



Sheet Tent Partly Over the Tree.



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E. J. WICKSON.....Horticultural Editor.

San Francisco, October 14, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

There has been variety to suit the most exacting taste since our last issue. The heat rose to the highest notch for any October at some places, and probably did some harm to grapes and other late fruits. For several days it was transcendently warm, to say the least. Since then there have been showers here and there and a lower temperature. These changes are all in a season, and those with memories delight to declare that such wide fluctuations always come in a season of good rains. It is a comforting view to hold and all will keep themselves ready to be soaked.

There is great activity still on the bay of San Francisco. Warships and transports anchor among the wheat ships, and there is no end of bustle with tugs and lighters. Returning volunteers and departing regulars throng the streets of San Francisco. Uncle Sam is very busy these days and California is getting the best of it.

Wheat is a little better all around. Spot wheat has held firm and options though droopy a few days ago are strong now. Barley is still going well for export and rye is stronger. Oats are steady and corn is scarce. Hay still drags and receipts of low goods are still very free, but prices show strength. Bran is a little higher; other feedstuffs unchanged. Meats are unchanged except mutton which has been easier—the hot spell dulled the meat trade for a day or two. Hogs are more free in arriving but the price holds up. Poultry is selling fairly for good stock. Butter and eggs are higher for choice fresh and dull for old stock. Dried fruit is active and firm and a very free movement both by ship and rail is going on. Nearly all dried fruits are higher. Small prunes are selling at especially high rates. Wool is unchanged; free fall is demanded and the rest neglected. Hops are dull and some are going to Australia on consignment. Potatoes hold values well but onions are slack. Beans are strong for the east except pink beans which are quiet.

Broomcorn has advanced in Illinois to the coveted price of $100 a ton. This is an advance of $30 in ten days, and as three-fourths of this year's crop is already out of the farmers' hands, the price is likely to go higher.

That Great Subterranean Reservoir.

It was delightful during the recent spell of high heat and dry wind to think of the reservoir of cool moisture which lies beneath our feet. Attention has been sharply called to this subject during the last two years because pumps have raised water from this reservoir for the saving of crops as never before, and regions which have despaired of ever attaining a system of ditch irrigation are now rapidly equipping themselves by the subterranean reservoir route.

This aspect of the great sub-earth water supply is newest and most striking and yet it is neither the greatest nor the most widely valuable. The possibility of maintaining trees and vines and summer-growing field crops by unseen water storage was one of the earliest discoveries of the pioneer farmers who began about 1850. They found by experience that for certain fruits and field and garden crops it was not at all necessary to have water running around them as they worked; that in fact it was a great deal better not to follow the old Mission system of production, because if the water given to the soil and subsoil by the wet season were prevented from escape by evaporation from a hard surface it would remain available for vigorous plant growth all through the dry season. This was a splendid discovery and it has made possible the greater part of the vast value of summer-ripening fruits and summer-growing field crops which has been gathered during the last half century, but it has recently been demonstrated as never before that the subterranean reservoir may practically run dry. The last two or three years of comparative drouth have failed to fill the reservoir and distress has come to plants in spite of the most careful cultivation for moisture conservation. A year of unusually large rainfall is now needed to refill the invisible cisterns and start us off again on a new series of good years.

These reflections are suggested by a bulletin just received from the Arizona Experiment Station, which presents this fact of available underground water storage in a very striking manner. At the branch station at Phœnix, under immediate direction of A. J. McClatchie, the question arose upon the comparative efficacy of summer and winter irrigation, and this is a matter of vital interest in this State as well. The presumption is that if there is subsoil depth and character which favors the reception and retention of a large volume of water applied in the winter months it could be retained by surface cultivation, and deep-rooting growths like fruit trees and vines would do better than if they were allowed to go dry during the dormant season, and afterwards were brought along by summer irrigation.

In Prof. McClatchie's experiment to ascertain how much of this summer irrigation might be rendered unnecessary by the application of an abundance of water during the winter, an isolated peach and apricot orchard was irrigated eight times from December to March, after which water was withheld until the end of June. The last irrigation, occurring March 28th and 30th, was an especially thorough one. About ten days later a sample of each foot of soil was taken from the surface to ground water at 34 feet, and a set of samples was also taken during May and during June. As soon as the soil was sufficiently dry it was harrowed, and was cultivated three times during the following three months. In taking the first set of samples of soil roots were encountered in abundance at 14 to 16 feet, and one peach root was followed into the 20th foot, showing that the water of at least the upper 20 feet was available to the trees.

A table shows the character of soil and subsoil to a depth of 34 feet. There were at the surface 5 feet of clay loam, followed by alternations of clay and gravel mixed to a depth of 17 feet, when 11 feet of clay was entered which rested upon 3 feet of clay and gravel. It thus appears that about 17 feet was of sufficiently open character to receive water freely. The table shows that the 25th foot contained less water than any other foot, either above or below, and this indicates that the copious winter application of water had sunk readily to the top of the thick clay layer and had penetrated the upper 7 feet of the clay. There was then a subterranean reservoir of large capacity, and the behavior of the trees demonstrated the acceptability of supplies from this source.

At the time of taking the second set of samples, excepting in the surface mulch the per cent of water had not decreased much in the upper 4 feet, the amount that had passed through the surface of the soil and through the trees having been about replaced by capillary action upwards. As a whole, however, the water in the soil had settled. At the time of taking the third set, though the surface soil had become quite dry, there was still an abundance of water within reach of the roots, the amount still available being equivalent to a rainfall of about 25 inches.

Above ground were healthy trees laden with good sized fruit and growing thriftily. The average growth of the apricot trees was above 4 feet, and the peaches and apricots that had ripened were much larger than they were the two previous years, some of the peaches being three times as large as they were the previous year, when the orchard was irrigated frequently, but not cultivated; and this in spite of the fact that the month of June was an unusually warm, dry one, the average of the maximum temperatures recorded at the farm being 106°.

Some determinations made from samples of soil taken elsewhere showed the effect of irrigation. In an orchard that had not been irrigated during the winter, but had received three irrigations during April, for many feet below the fourth foot the subsoil was everywhere practically air-dry.

These tests by Prof. McClatchie give with desirable definiteness facts which have long been taken for granted in the prevalent system of thorough cultivation of deep soils in regions of adequate rainfall to obviate the necessity of irrigation. They demonstrate the sub-earth reservoir from a cultural point of view as definitely as wells and pumps do it from an irrigational point of view. It is a very comforting demonstration to those having deep soils to be filled by a generous rainfall, or which they can fill by winter irrigation when water is abundant in the streams and irrigation ditches. For certain fruits on certain soils winter irrigation is unquestionably a satisfactory recourse, for the very same reasons that for certain fruits on certains soils a heavy winter rainfall makes all irrigation unnecessary. But the sub-earth reservoir must be charged with water. It is very dry now, as a rule—drier than it has been for years. It is getting near the time when the clouds should begin its filling for next summer's use.

California Fruits---Third Edition.

The publishers are glad to announce that the third edition of "California Fruits and How to Grow Them" has escaped from its long durance with the printers, and advance orders are now being filled in turn, and by the end of the week copies will be available for new orders. The delay is sincerely regretted, because it has tried the patience of many. It has been a hard task all around to complete the work, and we hope it will be found good enough to warrant the effort.

The work has been largely rewritten to keep pace with the advance in understanding and methods. Much condensation of matter of transient interest has been done, and expansion of topics of wide importance has been necessary to present an up-to-date aspect of leading practices. This has required the insertion of about 70 pages more than was promised for this edition; but the publishers cheerfully assume this increased cost to secure greater value and efficiency. Illustrative of the new text there has been a largely new outfit of engravings and full-page plates, many of them of marked beauty and characteristically Californian.

The work appears just in time to be suggestive and helpful to planters in the selection of varieties and methods of starting young trees and vines. It also presents wholly new treatment of the subject of pruning fruit trees, fully illustrated with new engravings. In short, in all chapters something will be found which will be of great practical value to know. The statistical showing of our fruit interests is quite complete and includes the latest data.

QUERIES AND REPLIES.

Cowpeas in California.

To the Editor:—Why do you write so little about cowpeas? I grow them for two purposes—first for nitrogen gatherers, second for a balanced ration when fed with corn. When cowpeas are cut for hay the roots left in the ground supply the ground with nitrogen. Is this right?—Grower, El Dorado county.

The reason why more is not made of this plant in this State is because it will not grow in the winter time, when moisture is abundant, because of the frosts, and it will not grow in the dry season, except on moist or irrigated lands. At the same time, for such land where the moisture supply is abundant, it does produce an enormous crop of forage, and you are right in estimating it very highly. Then, again, when one has suitable land and plenty of water for irrigation, alfalfa will grow well, and in the valleys where alfalfa will grow well there is no particular use of growing cowpeas, because both plants are rich in protein and go with corn to make a balanced ration. There are some cowpeas produced here and there in the State and some people who have quite as high an opinion of the plant as you have. It will not, of course, meet all our requirements for a nitrogen gatherer, because it will not grow in the winter time when there is surplus moisture for it. However, when conditions are right for summer growth, the soil will undoubtedly add to its nitrogen supply by the growth of this plant.

Alfileria for Arizona.

To the Editor:—Can alfileria be grown on fertile land without irrigation? For what length of time in the year will it make feed for stock? Can the seed be obtained in California?—Cattle Raiser, Arizona.

Alfileria is a European plant which was introduced to California long before the American occupation—probably by the Spanish Missionaries. It spreads very rapidly and is now growing in all parts of the State. It will grow without irrigation in the winter time only. It will not grow during the dry season, but entirely dries up and goes to seed, thus preparing for the starting of new plants at the beginning of the next rainy season. It can be counted upon to grow just as long as moisture remains in the ground, and no longer, for it very quickly ripens on the approach of the dry season. The seed is not abundant, because it is very difficult to secure and cannot be had at a small price; but it can be had from our seedsmen. One advantage of the plant is that it seeds itself very freely, and if you only succeed in getting a few plants it will soon spread rapidly, if the conditions are favorable to its growth. We understand that it has proven very satisfactory in some parts of Arizona.

California Wheats.

To the Editor:—Is the Red Clawson wheat widely grown in California? If not, which are your best wheats?—F. N., New York.

Red Clawson wheat is not grown to any extent in California; in fact, if it is grown at all it is mere y in an experimental way by some one who has heard of its production at the East. The wheats which are most largely grown for export in California, and for local grinding also, are the white wheats, because of their superior starchiness. These seem to be desirable to the European millers for mixing with the more glutinous wheats which are shipped from regions east of the Rocky mountains. The varieties which are chiefly grown in California are Sonora, White Australian, White Chili, White Club, Propo, Pride of Butte, and some other varieties which are probably not grown in any other State of the Union, unless it be in the eastern part of the State of Washington. The Pacific coast wheats, as you will see, are very different from those which prevail over the greater part of the wheat area of the United States.

What Prune to Plant.

To the Editor:—We want to plant out a prune orchard. Which variety would be the wisest to select? Is the Imperial the largest prune, and does it bear as heavily and as early as the Petite and is it as sweet?—Reader, Napa.

There are two very large prunes which have as much sugar as the small French prune; they are the Imperial Epineuse and the Sugar prune of Burbank. These varieties are so new that it is not possible to tell yet whether they will be perfectly satisfactory in bearing. The Epineuse, however, has been fruited in San Jose for at least five years and is there pronounced to be satisfactory. The Sugar was only introduced last year, and, consequently, more time is required to establish its bearing habit in all places, though in Santa Rosa valley it is known to be a good bearer. The Sugar prune ripens from two weeks to a month earlier than the Petite. In planting out a prune orchard at the present time it would seem to be wisest to put in a good proportion of the common French prune and a less area of the larger new varieties. If the latter do not bear satisfactorily, the trees can be grafted over, as is being quite largely done at the present time with some kinds which have not proved satisfactory. This is apparently the safest course, though not a few people are planting only the Epineuse, believing that its value has been sufficiently established.

The Logan Berry.

To the Editor:—What is the best way to grow the Logan berry and what will be the yield to the acre with good care?—A. B. T., El Monte.

With reference to growing the Logan berry we can say that the planting and cultivation of it are about the same as the raspberry. In training it is grown like the dewberry, for it fruits upon long trailing stems. These stems can be trailed along in a row on a slight ridge and irrigation water can be applied between the rows in a furrow, or it can be trained along a low trelis made of posts and one or two galvanized iron wires. Each year the wood which has borne fruit is to be removed and the new wood preserved for the following season's fruitage. the berry has to be rooted from the tips of the cane, like the dewberry, though it can be grown from cuttings of old wood. As to what the yield will be we can only say, that it depends entirely upon the richness of the soil and the care with which the plants are grown. It is a very prolific bearer and the weight of the fruit, under good cultivation would be greater than any other small fruit of which we know, but just how much to the acre we are unable to state. Perhaps some reader has weighed his crop and can answer.

Figs in Valleys North of the Bay,

To the Editor:—I want to plant figs around the fences of fairly moist land, which is used as a pasture, in Santa Rosa valley. Will figs do well in that locality, and which varieties are best?—Grower, San Francisco.

California black and White Adriatic figs are both reported upon favorably from the Santa Rosa valley, and are both said to be profitable, if properly handled in drying. The California black fig will make a very much larger tree, if you desire size, but probably the white fig would give a better price in the market. It is a question whether, so near the coast, the drying figs will do so well as they will in the interior and foothills, but some are finding them profitable. The great question of producings figs as good as the Smyrna seems to be now near the point of demonstration, because there is reason to think that the fig insect which is used for caprification has been successfully introduced. But doubtless much will depend upon getting the figs in places where they will reach their best estate.

Unseasonable Bloom.

To the Editor:—The prune trees in my vicinity are coming into bloom. There was a very small crop this year. Please state in your valuable paper the cause of such an extraordinary thing, and also the effect on next year's crop.—A Subscriber, Patchen.

We commented upon these facts recently. The unseasonable bloom is due to the dormancy, or partial dormancy, enforced upon the tree by lack of moisture. If there had been moisture enough to keep growth active until the proper season for a rest the trees would have remained dormant until awakened by the heat next spring. As it is, they have been deceived by the enforced rest and think it is time to go to work. The effect of the behavior will largely depend upon how much there is of it. Trees do bloom moderately out of season and still retain their dormant bloom buds enough to make a show at the right time. The strength of the buds which remain dormant will determine next year's crop. If they are but weakly developed because of this summer's shortage of moisture, they will probably drop and the tree make another effort next summer to square itself with the world in wood growth and fruit buds. It is impossible to tell now what the trees will do next summer; it depends upon how badly they suffered this summer.

The rain on Tuesday night and Wednesday amounted to half an inch at some points, and has reached pretty well over central and northern California, varying from a sprinkle upwards. Snow is reported from the Sierra Nevada. It has extinguished forest fires and has hurt some hay, hops and fruit.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Oct. 9, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has been several degrees above normal from San Francisco northward, slightly above in southern California, and normal in the San Joaquin valley, where cool nights and mornings have been generally prevalent. Unusually high temperatures prevailed at the close of the week. Forest fires in the mountains in central and northern California have contributed to make the weather oppressive. Thus far no material damage to crops has been reported. Light showers occurred at Riverside and Independence on the 6th, with heavy rain in the mountains around San Bernardino and San Jacinto. There was a quite severe frost in portions of Lake county on the 2d, and beans were seriously injured. Fruit drying is practically completed, and the first crop of raisins is nearly all off the trays and under shelter. Large quantities of grapes are still going to the wineries. Citrus fruits are making favorable progress, though needing rain in some sections. Porterville lemons are nearly ready for shipment. The yield of walnuts is fair, and the nuts are of better quality than last season's. But little farm work is under way, though plowing and seeding are progressing in some districts. Corn, potatoes and late vegetables are plentiful.

Sacramento Valley.

Prunes are all gathered, and drying nearly completed. Late peaches and pears are still being shipped in considerable quantities. Tokay grapes are abundant, and are being sent to the wineries. Tomatoes are plentiful; in some sections the yield will be far above the average. Oranges have been benefitted by cool nights and warm days, and are ripening rapidly. The atmosphere has been very oppressive during the week, owing to high temperatures and smoke from fires in the mountains. Forest trees, and in some places orange trees, are shedding leaves. Water in Feather river is said to be lower than for many years. Pastures are getting dry and feed is very scarce. Grain seeding has commenced in some districts.

Coast and Bay Sections.

Grape picking is nearly completed; the yield is considerably above the average. Deciduous fruits are mostly dried and canned. Wine making continues. In some sections it is reported that olives will be a failure. Beans were considerably damaged by frost on the 2nd in portions of Lake county. Corn is being gathered. The second crop of alfalfa has been harvested. Hay baling continues. Dry plowing and seeding are progressing in some localities. High temperatures have prevailed, and numerous forest fires have rendered the heat very oppressive.

San Joaquin Valley.

Raisin curing has progressed favorably during the week, and the first crop is nearly all safe. Wine making and fruit drying continue. Deciduous fruits are nearly all off the trays and under shelter. Lemon shipments will begin soon; the crop is said to be light. Oranges are doing well, except in orchards where the water supply is deficient. Potatoes and onions are going to market in large quantities. There is a good crop of sweet potatoes. Hot, sultry weather has prevailed during the week, afternoons and evenings, but the nights and mornings have been cooler. There was a slight shower at Independence on the 6th.

Southern California.

Raisin making continues, under very favorable conditions. Deciduous fruits are still very plentiful. Guavas are in market; there is a good crop, of excellent quality. Fogs have been beneficial to fruit trees. Citrus fruits are in fair condition, but would be benefited by rain. Walnut picking continues; there is a good crop and the nuts are of better quality than last season's Celery and vegetables are thrifty. Alfalfa on irrigated land is in fair condition. There was a light shower at Riverside on the 6th, and heavy rain in the mountain regions about San Bernardino and San Jacinto.

Los Angeles Summary.—Extremely warm, with dry winds at close of week; favorable for fruit drying, but hard on trees where water is scarce. Raisin making and walnut harvest continue. Some plowing and seeding being done.

Eureka Summary.—Potatoes and late vegetables growing finely. Rain is badly needed in the interior. Grass is drying and backward. Apples are maturing, with a tendency to drop early, which prevents coloring; previously estimated yield unchanged.

The following data for the week ending 5 A. M. Wednesday, October 11, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date...	Total Seasonal Rainfall Last Year to Same Date...	Average seasonal Rainfall to Date...	Maximum Temperature for the Week...	Minimum Temperature for the Week...
Eureka	.32	1.29	2.99	2.05	44	62
Red Bluff	T	.02	.78	1 10	48	94
Sacramento	T	T	.70	.53	48	94
San Francisco	T	T	1.07	.82	50	94
Fresno	.02	.02	1.15	.57	54	90
Independence	T	.19	.31	.44	46	82
San Luis Obispo	.00	00	.37	.96	40	96
Los Angeles	.00	.02	.09	.45	54	100
San Diego	.00	.06	.07	.26	60	92
Yuma	.00	.08	.18	.79	58	98

HORTICULTURE.

Promising New Fruits.

By C. P. TAFT of Orange at the University Farmers' Institute at Anaheim.

It is to comparatively new fruits, or to new varieties of well-known fruits, that horticulturists must look if they wish to keep in the van of progress and reap the accompanying profits. It is asserted, and I believe truly, that during the last twenty years greater improvement has been made in fruit culture than in the preceding 300.

The Loquat.—Among the fruits which promise best results to the experimenter in this portion of the State, the loquat is perhaps the most worthy of attention. Speaking of it, Mr. Burbank says: "I know of no fruit of more promise," and adds that with proper effort "success is sure." Until perhaps within a year or so, the loquat has been regarded by most people as a quite inferior fruit, "small and sour and full of seeds." They looked upon it much as they might the apple if they were acquainted only with crabapples, or peaches if they knew of only the natural fruit. This was to a certain extent my own view some twelve years or so ago, but I also saw that there was enough difference in size, color and size to justify working for something better by a rigid selection from the best seedlings. Since then I have fruited a large number, and the result has been very satisfactory. While much the larger portion turned out worthless, as is always the case in such work, some were a great improvement in size, flavor and keeping qualities. Two, which I have named the Advance and the Victor, one yellow and the other reddish, have often produced fruit nearly 3 inches in length and from 6 to 7 in circumference, and of excellent quality. I have the word of the Japanese Consul in San Francisco that they have nothing equal to them in Japan. Others, while not so large, have shown a variety of flavors, indicated by the names which I use to distingush them, such as Pineapple, Clove, Rose Geranium, Bellflower, Cinnamon, all approximating in taste to their designation. Others have flavors which seem to be new and difficult of description. There is one which, in addition to its delicious flavor, has a very marked perfume, but it is small, and valuable principally for future crossing, so as to introduce the flavor and aroma into some larger kind. A few have borne fruit which invariably has but one seed, but otherwise worthless except to propagate from.

As you doubtless know, the loquat commences to blossom in September, and ripens its fruit in the spring several weeks before most other fruits come upon the market. This alone is a great advantage, but the improved varieties will hold their own on their other merits in competition with any fruit. The last season I sold nearly all of my crop to one dealer in Los Angeles. He made what was much the best display of loquats ever seen in that city, and by far the larger portion he sold for 25 cents per pound right on up to the end of the season in June. Speaking of the keeping qualities he said "they keep like a lemon," and I know he often waited a week or ten days before taking the fruit from the packages in which it was shipped, claiming that so keeping improved them. Their bearing qualities are excellent, being regular and sure, with a tendency to overbear. This is especially true of the Advance. The Victor I have not tested so long, but it promises well, as also do sundry other new varieties. There is also very little waste. For the past two years fully 90% of the fruit has been marketable, and 200 pounds for a tree in full bearing is a very moderate estimate.

It may seem a superfluous caution, but it is not so, to say that to make a fair estimate of the virtues of this fruit it is necessary to let it get ripe. Let them hang a few weeks after they color, and they are very sweet and not the least like a gooseberry. They are also exceedingly harmless. I am told that the Chinese physicians, who have known the fruit for ages, always permit their patients to eat loquats (ripe, of course).

Now, am I not justified, in the face of the foregoing facts, in asserting that the loquat is one of the fruits of the future for this part of the State? Plant it in orchards and give it the same intelligent care that the orange receives, and it will prove, in my estimation, no mean rival to that fruit from a profitable standpoint.

The Logan Berry.—This season sees the Logan berry fully established among the standard small fruits. Four years ago the first plants were sent out from the experiment station at Berkeley. Since then it has been planted in increasing quantities over the whole United States. It is a fine combination of the best qualities of the dewberry and red raspberry, and is very vigorous, hardy and prolific. Many claim that it is the best berry they ever tasted. Canneries will take them in large quantities. For this I have the word of Mr. Choate of the Cutting Packing Co. of Santa Ana. This gives a large market, and I know of nothing better to plant between young trees until they come to bearing. After they are well rooted the young plants can be removed at any time in the year, and will do well.

It is perhaps too soon to speak very positively as to how the Logan berry should be pruned, but my experience so far seems to indicate that very little pruning is necessary. The only difference I have yet discovered is in favor of not pruning. By letting them run on the ground and training only to grow the long way of the row there is formed an accumulation of old canes next the ground, which raises the fruit-bearing wood higher each year, and when the water is run underneath the fruit is uninjured. Some use trellises upon which they train their vines, but in my opinion the fruit thus saved will not justify the extra expense. The only pruning I expect to do this year is along the edges of the beds, to keep the vines within bounds. This may not be the best way, but it certainly does very well.

Miscellaneous.—Many other varieties of berries have come out during the last few years, some of which would doubtless prove of value. Mr. Burbank offers the Primus, Phenomenal and Iceberg berries. The Primus is all that is claimed for it, I believe, but being black will not prove as attractive as the red sorts. The Phenomenal is a red berry like the Logan, but claimed to be superior. The Iceberg is a white blackberry. These are doubtless very good, but not yet tested for our section.

Another fruit which I think one would be justified in planting on a small scale is the *Passiflora Edulis*, or small grenadilla. It is prolific and sufficiently hardy, and, while of a very peculiar taste, I think that there will always be a few people who will be quite fond of it.

The frost of last winter was rather a setback to the cherimoyer, or custard apple, but they are recovering finely; and still I think that they will prove very desirable for planting in nearly frostless sections.

The ceremon, or *Monstera deliciosa*, has grown quite well for the past two years, but seems to be slow in coming into bearing. It is very highly spoken of by those who are acquainted with it.

FRUIT PRESERVATION.

A Discussion on Curing Prunes.

At the last meeting of San Jose Grange there was an excellent discussion on curing prunes, of which an outline was given in the *Mercury*.

The subject set for discussion was "What is the Proper Degree of Dryness for Prunes?" and it was the understanding that samples of prunes should be brought in by various members of the Grange to illustrate the question. Only one sample was submitted and that by E. T. Pettit. This sample was taken from his own prunes, and, after examination by the various members, it was agreed that they were about right. This and other kindred matters were then discussed at considerable length.

Taking Up Too Soon.—Prof. C. W. Childs said that there had been considerable trouble among growers and packers this year with prunes being taken to packing houses too wet, and he had known of many loads being sent back, much to the annoyance of the packer and the grower, and thought the discussion timely. More trouble had been caused this year than usual on account of the scarcity of trays. He believed that when the fruit had been brought to the right point, the trays should be stacked with the fruit on them for several days.

G. W. Worthen believed the same in regard to the stacking of trays, and gave several reasons why, in his judgment, the fruit was generally dried uneven.

Dipping and Pricking.—The matter of the prunes drying uneven then led to the question of dipping, and Prof. Childs gave it as his opinion that the uneven drying was caused in many cases by some of the prunes being partly dried on the ground, or for some other reason, the skin becoming tough, the lye did not do the work of breaking the skin, and the fruit did not dry even. He said he had made some investigations for his own satisfaction this season, and had come to the conclusion that the combined dipper and pricking machine obviated this difficulty, and he had determined to put in one of the machines next season.

Mr. Lee said that he had been informed that there was a prejudice among buyers in regard to pricked prunes, many claiming that they became sticky and were not in as good condition when they reached the market.

Prof. Childs replied that this was true of the pricking process alone, but not of the dipping and pricking combined.

The discussion of the merits of the combined dipping and pricking machine was continued, with the result that Prof. Childs, E. M. Ehrhorn, E. T. Pettit, Mr. Woodhams and others favored the use of the combined dipper and pricking machine, with the attachment that separated the prunes into three grades before laying in the trays. Mr. Ehrhorn said that one had been used on his home place this season and they never had as fine-looking fruit before.

Grading.—Another reason for the uneven drying of the fruit was that, because of the difference in size, some dried quicker than others, and thus brought on unsatisfactory results. This led to the discussion of the matter of grading before drying.

S. P. Sanders said many years ago he commenced to grade his prunes into two or three lots before placing on the trays, and while it worked well where one had only a small quantity of prunes, he did not think, where a large amount of fruit was handled, that the results justified the labor and expense. He continued: "It is pleasant to contemplate a time when there will be uniformity in the drying of fruit, and, in consequence, the fruit be in better condition for the market. I think it will be found better in the future to dry at co-operative dryers, where the work will be under one head, instead of having each man dry his own fruit. I do not think there is much difference in the expense, and the results are much more satisfactory."

They Kick Themselves.—Mr. Lee was of the opinion that there was not so much a lack of experience and knowledge on the part of the growers on the subject of preparing fruit for market as it was that they were prompted by an avaricious desire to get more for their fruit rather than to send it into market in the best condition possible.

D. H. Coates said: "I am glad Mr. Lee has confirmed my opinion that the farmer will do little mean things which the business man will disdain to do. We talk much about the crooked and dishonest methods of the buyer and dealer, and the farmer is constantly complaining of the crooked manner in which he is dealt with, but I think when it comes to mean, diminutive ways of doing business that we farmers take the lead. This is strongly illustrated in this valley by the poor, spoiled fruit that we put on the market last year for the sake of getting a few dollars at the time, the bad results of which we are reaping now. Such ways of doing business will come back to us, and if we were business men we would not do it, for it is not business; it is a policy of ruin and the results are always disastrous."

Shaking Prunes.—E. T. Pettit spoke of another practice among prune growers that was productive of bad results, and that was the shaking of the trees at the beginning of the season. He did not believe in shaking the trees at all on the first and second pickings, and he said whenever it was done it was to the loss of weight in the prunes. Later when the prunes begin to stick and dry on the tree it was well, he thought, to shake them off. Mr. Pettit coincided with Mr. Coates in denouncing the dishonest methods of many of the growers who practice deceptive methods for temporary gain, to the detriment finally of themselves and all of their fellow-laborers. He said that, in his judgment, there should be an inspector of produce, and especially in this county some one who has authority to inspect the fruit, so that the man who was honest could be protected.

Jacob Bettinger did not think the bad fruit was productive of as much harm as the practice of some dealers of buying the inferior prunes of Watsonville and other outlying sections that produced fruit of poorer quality than this county and putting it on the market as Santa Clara county fruit. He named one instance that he knew of last year, where a man bought twenty tons of prunes from Watsonville for 1½ cents and put them on the market for Santa Clara county fruit. Prof. Childs reported a similar case that he knew of where the fruit was purchased from Alameda county, shipped in here and dried and put on the market as fruit from this county.

New Prunes.—The Imperial prune was discussed briefly and the conclusion arrived at that it was not a success. While the flavor seemed to be all right, experiments so far conducted proved that it was a slow drying fruit and would not be practical to raise. Inquiries were made concerning the Burbank Sugar prune. Prof. Childs said he had budded and grafted some of it in his own orchard. He said that the prune was sweeter than the French, is a pretty prune and its size about that of the 30–40 grade of the French prune.

THE VETERINARIAN.

Glanders in California and Elsewhere.

By Dr. J. H. HESTER, V. S., before the University Farmers' Institute at Santa Barbara.

I have chosen the subject of glanders for this paper because I know that a number of localities in this county are affected with this disease, and that the majority of horse owners do not seem to be aware that this disease, like most of the contagious diseases, is influenced by climatic conditions. And in this mild climate of southern California it often assumes such a mild form that horses affected with it may go on for several years and perform an ordinary amount of hard work. Late investigations prove that in the initial stage a spontaneous recovery is by no means rare. Until the last few years most of the literature upon this subject at our

command seems to have been written by investigators who studied the disease in a more severe climate.

History of the Disease.—Glanders is one of the oldest diseases of which we have any knowledge in the history of medicine, it having been described by Aristotle in the fourth century before Christ. And from that time until the present a great deal of time and energy seems to have been spent by able investigators endeavoring to solve the mystery of the cause and to find the proper means whereby they might eradicate the disease. Little progress was made along these lines until the advent of the microscope as an aid in the study of medicine.

The work of Loffler and Shultz in 1881 definitely established the fact that glanders is a specific contagious disease due solely to the glander baccillus, and that the disease is incapable of spontaneous generation, but must at all times depend upon the presence of the baccillus, which must in turn be derived from parent baccillus of the same kind. This point being settled, investigators next turned their attention to the study of nature's laws governing the life of the germ. They have never found the glander germ growing outside the animal body except in artificial culture; and it is consequently held that the disease can be obtained by animal or man only from an infected animal, either directly or indirectly. When exposed freely to very dry air with sunlight these germs probably perish in a few days.

Loffler has, however, established in his experiments that in dried putrid animal fluid it may preserve its virulence for three months. It resists putrification from fourteen to twenty-four days; in water it remains virulent for fifteen to twenty days; in moist matter it does not live longer than four months. Loffler considers this length of time as the maximum duration of virulence of the infectious matter. Of solid hoofed animals, although the horse is the most frequently affected, the mule and ass contract the disease more readily and it is more rapidly fatal among them.

Dogs and cats may contract the disease by eating diseased flesh. That this disease can be contracted by man has been sorrowfully demonstrated in this and several of the neighboring counties. The attending physicians informed me that a man lost his life in Los Alamos a few years ago from glanders contracted from his horse. Similar cases are reported in San Luis, Ventura and Los Angeles counties.

In California.—You will, no doubt, be surprised to know that in four years since locating here my attention has been called to about 100 cases of glanders in this county. Nor is it at all probable that this by any means indicates the number lost by this disease for owners seem very reluctant to report cases which they admit they believe to be glanders, and neighbors will not often report for fear of making enemies. As the law in this county now is a county veterinarian can not act unless called by a county supervisor; which is usually not done until requested by the owner. Twice my letters notifying resident supervisors of cases reported in their district have remained unanswered, and disease was permitted to spread.

Vitality of the Glanders Germ.—If four months is the maximum duration of virulance of infectious matter, and the best authorities seem to accept it as correct, the job of disinfecting infected premises is greatly simplified. As against the generally accepted theory that virus might under favorable conditions retain its virulence for years, Prof. Trosbot says: "It is almost certain that the disease is only kept latent in animals, where it passes unobserved." The control and eradication, then, wili depend upon our ability for an early diagnosis. That it is impossible to control the disease even by immediate isolation or destruction of all animals as soon as they show clinical symptoms is abundantly proven by results in the large company stables in this country and Europe, where the horses are under the constant supervision of competent veternarians.

To Detect Glanders. — I believe the unanimous opinion of all leading veterinarians is that the discovery of Klaning and Helman of Russia, in 1891, of the product of the glander bacilli, known as mallein, has at last furnished us with means for the early diagnosis, the proper use of which will enable us to successfully eradicate the disease from any stable or locality. The mode of using mallein is to inject a suitable dose (about fifteen drops) under the skin of the horse to be tested, which will cause, if the horse be glandered, a swelling at the point of inoculation that seldom reaches its maximum size (4 inches or over in diameter) before twenty-four hours, and remains at least twenty-four hours more; while on a healthy horse the swelling, if any, is not likely to exceed 3 inches in diameter, it reaches its maximum size in one to sixteen hours and then rapidly declines, so that it has nearly or entirely disappeared in twenty-four hours. In the glandered horse it also causes an elevation of temperature from normal (under 101) to 103 or over in one to sixteen hours, while in a healthy horse it seldom causes a rise of even 1 degree. Mallein has proven so reliable that it has received governmental recognition in many of the European countries, and its use officially advised or commanded. In order to show you some of the practical results from the careful use of mallein, I will give you a short quotation from a paper read before one of the veterinary societies of London, as to how the London Road Car Company has succeeded with mallein.

Experience in London.—Five years ago, like every other large stud in London, this company had glanders among its horses. During the last twelve months only two cases have occurred in the stock, and Mr. Taylor considers that the disease has now been stamped out. How that most desirable result has been brought about is told by him in the following extract: "The chief agent, next to human intelligence, in our success has been the systematic use of mallein. We protect our stud against a reintroduction of the disease by testing every new purchase with mallein, and we cleanse our stables by detecting every case by the reaction of the same agent. Not only do we do this, but every horse sent to our farm has this test applied again on his return."

A Demonstration in France.—Another still more convincing piece of evidence, because it gives actual figures, is taken from a paper prepared by Prof. Nocard of Alfard Veterinary College, France. I can do no better than give it to you in his own words:

"In the month of July, 1895, the General Carriage Company of Paris requested me to organize measures against glanders, which decreased its horse stock. The situation was grave; out of a total of 12,000 horses distributed in twenty-three depots, 586 showing symptoms of glanders had to be killed in six months (July, 1895, to January, 1896); in the month of August alone 170 were killed. I obtained from the directors, thanks to their eminent president, permission to submit the whole of their horses to the mallein test. This was no light undertaking, for it was necessary to operate without interfering with the work of the company. In each depot it was necessary to seperate the healthy animals from those which were contaminated, as shown by the mallein test; and it was necessary to distribute them in special stables with attendants and utensils for their exclusive use. Above all, it was necessary to interdict their access to common drinking troughs, which are, unfortunately, the rule in France in all the great stud of horses; finally it was necessary to disinfect all the stables, and in the case of those with wooden mangers and partitions it was necessary to substitute cement for wood, so as to render disinfection possible. Out of 10,231 horses submitted to the test, 2037, or in round numbers 20%, gave the characteristic reaction. This percentage, though so high, does not quite show the gravity of the disease, for out of twenty-three depots belonging to the company, sixteen were almost exempt from the disease; in the seven others the number of contaminated horses varied from 32% to 56%. Out of these 2037 animals which were denounced by the mallein test, although none of them presented the least symptoms indicative of glanders, 687 became chronically glandered, and had to be slaughtered; 440 between July and December, 1895; 152 in 1896, and 15 in 1897. On the other hand, 338 have ceased to react to mallein and have been returned to the category of the healthy. A large number of these have had to be cast on account of old age, the wear and tear of work or accidents. We have made a post mortem examination in each case; in the whole of them the lesions were manifestly cured, being fibrous or calcareous. In a certain number of animals these lesions were carefully collected and used to inoculate culture media on animals. The cultures have not given Loffler's bacillus, and none of the inoculated animals have taken glanders.

"The operation would not have been complete if we had not submitted to the mallein test the horses purchased to recruit the stock. Out of 5027 horses submitted to the committee for purchase in 1895, mallein denounced 237 or 4.71%, and these were returned to the dealers. In 1896 the proportion of the suspects reached 6 77% of the inocculated horses, that is to, say 318 out of 5626. Do not these figures eloquently demonstrate the extreme importance of this measure? Mallein has not only the advantage of enabling us to make an early diagnosis of pulmonary glanders, which is inaccessable to any other means of diagnosis, and of thus rendering us masters of the disease, but it has also permitted us to return to work a large number of horses which would formerly have had to be isolated as suspects on account of symptoms indicative of glanders.

"From the 11th of October, 1895, to the 30th of June, 1897, 627 horses had thus to be submitted to the mallein test; 392 on account of enlargement of the submaxillary glands; 63 on account of nasal discharges; 156 on account of lesions simulating the swellings or lymphangitis; 2 on account of epistaxis; 14 for various lesions.

"Out of these 627 horses only 265 have been recognized glandered and slaughtered; 362 were not glandered, and could be immediately returned to work."

An Application of the Foregoing.—Prof. Nocard furnishes a number of fully as interesting records as this from his experience with mallein. If such results as these can be secured in large crowded cities like London and Paris, how much easier it would be to exterminate glanders from localities like this, with so many favorable conditions, if veterinarians could only have the co-operation of the stock owners themselves and others interested. Prof. Nocard has formulated the following plan for the prophylaxis of glanders, which, he says, is actually followed in France:

First.—Every horse which presents any symptoms whatever indicating the existence of glanders or farcy, ought to be subjected to the mallein test, if mallein provokes a complete reaction, both organic and thermal, the horse ought to be declared glandered and slaughtered without delay; if, on the contrary, the mallein does not provoke any reaction, the horse ought to be declared not glandered, whatever may be the appearance of the symptoms or of the lesions which it presents.

Second.—When a horse is recognized glandered, all the horses which have cohabited with him ought to be submitted to the mallein test; after the test they ought to be divided into two groups, as follows: The first group will include the healthy animals—that is to say, the animals which have not given any reaction, organic or thermal. The owner will be allowed the free use of these; they will be kept in a special stable which has been thoroughly disinfected and into that stable one will not introduce any new animals without having them submitted to the mallein test. The second group will comprise all the suspected horses—that is to say, all those that have reacted to mallein in a more or less complete manner. These horses will be marked and a record kept of them; they will be rigorously isolated from healthy animals and kept in a stable which has been thoroughly disinfected. They will have special attendants, with grooming utensils, halters, drinking troughs, pails, mangers and nosebags, kept exclusively for their own use. Every month or every two months they will be submitted to a new injection of mallein; those which in addition to a reaction to mallein develop any clinical signs whatever of glanders or of farcy, will be slaughtered without delay. On the other hand, those which have undergone two successful injections of mallein without reacting, will be delared healthy and placed at the free disposal of their owner.

The Recovery From Glanders.—As soon as we admit that some horses may recover from glanders, there will be some who will be ready to object to the law compelling the immediate slaughter of all glandered animals. These laws were intended to apply to animals showing clinical symptoms, for that was the only means of detecting the disease when they were made, and, if you will notice, you will find that all the leading authorities still recommend slaughter just as soon as any clinical symptoms appear. Prof. Nocard has expressed himself in the following language:

"I have never pretended that all glandered horses may recover; on the contrary, I think that glanders, as it was formerly known, ought to be considered as practically incurable. When the submaxillary glands are enlarged, and nasal discharges or nasal and cutaneous ulcerations have appeared, which was formerly called the beginning of the disease but which was in reality the beginning of the end, one may say that the animal organism has been overcome in the struggle which has waged against the invading microbes, the cells have been powerless to prevent the generalization of the glander bacillus, and there is so little chance of their regaining the upper hand that it is better to have the horse which is clinically glandered slaughtered at once as incurable and dangerous. But glanders with external symptoms—the only stage of the disease with which we were formerly acquainted—is only the last phase of the disease; the first is represented by the nodular lesions of the lungs. The extreme frequency of which it infected studs has been pointed out to us by mallein."

It would take too much time to give you a full list of the clinical symptoms of glanders, for they must necessarily vary greatly, according to the parts chiefly affected, and in what degree. Any one desiring reliable information along this line can find a clear and accurate description of them by Prof. Huidekoper in the book on "Diseases of the Horse," issued by the Department of Agriculture at Washington.

Guard Against Glanders.—If I have succeeded in calling your attention to the different forms which the disease is liable to assume in this climate, as compared with most of the other States, for it is these mild cases that spread the seeds of contagion in a community, and to the value and accuracy of mallein as a diagnostic agent in the primary stages of the disease, it will be enough for this time. But let me warn you to be careful of all horses that have a chronic nasal discharge, especially if accompanied with enlarged submaxillary glands or ulcers on nasal mucous membrane. Do not permit your horse to drink from public watering troughs. It is much safer to carry your own waterpail.

Report of the Bureau of Animal Industry.

The Fifteenth Annual Report of the Bureau of Animal Industry for the year 1898 is now in press and will soon be issued by the U. S. Department of Agriculture. The report is a volume of 647 pages,

and is illustrated with a frontispiece, twenty-five plates and sixty-nine text figures. It contains the annual report of the Chief of the Bureau, giving in detail the operations of the Bureau during the year in relation to the inspection of meats and animals, experiments, investigations, etc., and miscellaneous articles on many cattle diseases, etc.

The report is printed in accordance with an Act of Congress and is for distribution principally by Senators, Representatives and delegates in Congress, only a limited number of copies being allotted to the Department. Readers should apply to the Congressmen of their districts for copies of this work and study it carefully.

THE DAIRY.

The Mistress of Minnewawa Changes Her Name.

It will be hard for readers to recognize the mistress of Minnewawa creamery and herd at Fresno, as Mrs. Dr. W. N. Sherman, but this is the name which she has assumed with the warmest congratulations of her friends. Anna E. Pratt has written for the *Chronicle* an interesting account of Miss Eshleman's dairy career, which it will be well for our readers to know more in detail than they have hitherto:

How Miss Eshleman Began —A little more than a dozen years ago Mrs. Sherman's father, a successful physician of Philadelphia, decided to retire from active practice and came to California to live. About this time, because this young daughter had a general interest in all things, he gave her a sum of money to handle. She looked around and was converted to the belief that an investment in accessible lands was a good one; so she bought her first 250 acres. Upon this land there was a house and some grain. She never had thought of the place as a home, but intended to hold it and sell it when a favorable opportunity came. Dr. Eshleman decided to make a short stay at the ranch, "just to look around," and was so much better there that the family decided to remain while "father felt comfortable." Then the generous homekeeping was inaugurated, as it had been in Philadelphia, and all went well; but it was impossible to get good butter, so they decided to buy a cow and learn to make it. With the idea that the best cow she could get would be the one she wanted, she made her purchase, and her venture for home consumption was a complete success. Then there was another invalid in the neighborhood who was accommodated with butter, and then some one else wanted it, because Mrs. Sherman could make the best butter and yet feed her cow on alfalfa. Then there was another call, and another that could not be met with refusal; and so at first, little by little, and then in big jumps, grew the creamery, which is now known in every dairy State in the Union, although there is not a pound of the butter to be had in open market. Over and over again she has been importuned by large dairymen of the San Joaquin country to consolidate her interests with theirs, but she has persistently refused.

"As it is," she says, "I can vouch for every pound of butter and every head of stock. Working with others, I could not."

A Personal Sketch.—Mrs. Sherman is just the sort of cheery, honest, capable young woman whom no man would resent in any business. While she has the health and the determination to do all things well, there is never an aggressive look or tone. She meets all questions and issues in a spirit of entire fairness. Uncompromisingly she plans her own lifework, but goes to no end of trouble to conduct scientific investigations for the benefit of all. She is, in truth, an adjunct to the University of California. For Prof. E. J. Wickson and Prof. M. E. Jaffa she has made all sorts of experiments in handling different kinds of fodder. She has kept records and collected statistics which are invaluable, and the papers she has written for the Farmers' Institute of the San Joaquin valley and the Farmers' Club of Fresno are among the best contributions to that most practical literature. She has been asked to serve on the State Dairy Board, but has refused, contending that she has not a moment of any day left for other responsibilities. She is a splendid economist of time, but the days would need to be twice as long to do all the things that claim her attention. Besides a rare mental equipment, Mrs. Sherman is blessed with a bright, pretty face, and a winsome, gracious personality. The farmers, dairymen and orchardists gladly defer to her and put her in executive positions in their gatherings.

Alfalfa Feeding.—Up to the time she successfully made butter on alfalfa feed, there was despair in the San Joaquin as well as elsewhere. It was thought impossible to make marketable butter with this cheapest and most easily raised fodder. She soon made the discovery that there would be no trouble with the feed if the stables and cows were kept absolutely clean. On a small scale she carried out her ideas as to the conditions that should surround a cow, and when she enlarged the cowhouse to accommodate from 150 to 200 cows, she had it built with concrete floors and gutters, and every convenience for keeping it absolutely clean. Upon the floor gypsum is sprinkled, and, to use her own words: "It is not the odor of the alfalfa that gets into the milk, but that of the unsanitary condition of the cow, and her surroundings."

Holstein-Friesians.—With the same care and up to the same standard every department of the dairy has been conducted. Trials with different breeds of stock have shown Mrs. Sherman that for her place and purposes Holstein-Fresian was the best. Early in her work she secured the registered Holstein, Lady Kathleen, the cow which has broken all records and has a credit of 629 pounds of butter a year. This animal is priceless. All sorts of offers have been made for her by dairymen, but nothing could induce Mrs. Sherman to part with her. She is as well known among dairymen as a record-breaking horse is on the track.

There are now in the registered herd 150 head. At birth each calf is marked with a metal tag. A full description of all the markings is taken, and now photographs of each are to be added to the herd book. If the tag of one of these finely-bred animals is lost, and the description leaves the slightest doubt, the animal is put into the "registered high class" herd. Dairymen buy stock from the registered band as soon as they are born, but Mrs. Sherman holds them for two years, and will not let them out unless she is perfectly satisfied. To prevent their injuring each other, these animals are dehorned, the females while they are very young, the males at two years. It is done with a diamond clipper and does not seem to cause the animals any inconvenience. This makes them tractable and in every way much easier to handle. Lady Kathleen is the only one in the herd with horns, and hers turn in on her forehead like curls.

The Silos.—Around the dairy the silos dot the landscape like Dutch windmills. There are seven of them, each 32 feet high and possessing a capacity of 380 tons. In them is stored the corn fodder—ears, stalks, leaves, tassels and all. It cooks itself and keeps indefinitely. At the end of five years it would come out soft, warm and green. There is no feed the stock loves so well as silage—not even the good grains, of which they have plenty. At Minnewawa the cows are fed until they are "full to bustin'," like the pickaninny who ate a basketful of pralines. Mrs. Sherman has proved by good truth-telling figures that it pays to give cows all they will eat. In consequence of this policy, her herd averaged 388 pounds of butter per cow a year.

Dairying in San Diego County.

By W. G. YOUNG of San Luis Rey, at the Farmers' Institute, Oceanside.

The establishment of creameries has undoubtedly given a great impetus to the dairy interests of this vicinity, and progressive farmers are giving greater attention to the details of this the most interesting branch of agriculture, that they may obtain their full share of the increased profits resulting from the use of improved machinery in the manufacture of dairy products.

Dairying for profit may not be taken up lightly, the balance between profit and loss may be easily turned down by a variety of causes which require constant and intelligent watchfulness on the part of the dairyman. It is essential that the dairyman be fond of cows, not merely animals in general but cows first. If he is not he had better not go into the business.

A Cow Problem —The first requisite is good cows of pronounced dairy type and those of us who have been keeping the general purpose cow will do well to breed to the special type as quickly as possible. No doubt we have made an honest effort to do so during the past few years, but if we may judge from the records of the San Luis Rey creamery we have not made much progress toward raising the standard of the milk. Five years ago the average test during the month of May stood 4 35; May, 1896, no record available; 1897, 4 20; 1898, 4 17; 1899, 4.12. That is not encouraging, it is a steady but sure decline in value; and as milk is paid for according to quality it means a loss of considerable money, in fact, it may in some cases take the profit. This decrease must be explained. We might feel inclined to say that the dry years have something to do with it, but the authorities on such matters tell us that cows vary very little in test and certainly our cattle have been fed as a rule better than formerly, for we have had to buy and bought the best. Large quantities of bran, corn, etc., have been purchased by farmers and fed to dairy cattle. Perhaps we do not know the individual test of our cows as well as we should. That is a point on which we should be thoroughly posted. Two or more farmers might join in the purchase of a Babcock tester, the price is about $5; and make systematic tests. We might find some surprises, our best cow proving an indifferent animal, and so on; at any rate it would be well to see how the test stands at home before kicking at the creamery test, as we are inclined to do.

Care and Shelter.—While breeding up our stock are we improving the conditions under which we keep them? Do we give them better treatment than we give the scrubs? No so very long ago we considered the lee side of a barn sufficient shelter for cows, often they don't get that. It must be trying for well bred animals to stand out in storms and cold weather in winter, as we do get storms sometimes. At such times the rain carries off our profit. The uncomfortable cow fails in her milk and incidently her test, the milker is noue too particular about his work; and it is small wonder if we think there is not much in dairying; and yet experience shows that winter dairying should be the most profitable.

Winter Dairying.—Cows coming fresh in September or October are generally in better condition to go through the trying time than any other time in the year. Milk rises in value in the fall and stands high all winter; then, after milking a few months when the cow naturally fails in milk, a fresh flow is induced by the grass, increasing the product of the animal, consequently the returns. The winter cow is ready to go dry at the best season of the year to have her dry, that is during the hot weather.

Winter dairying can only be carried on successfully under proper conditions good, clean stables, plenty of feed and constant attention. It is not necessary to stable cows much here, except at milking and feeding times, and cold and stormy nights; though they do better stabled every night in the winter. When you once get in the way of tying up cows in the stable for milking you will find it hard to relinquish it in summer. They are easier to milk; there is no trouble with fly-tormented animals racing about the yard, upsetting milk pails and the milker's temper. They soon learn their places in stalls; and it is very handy when you wish to feed grain or other food to any particular animal that for some particular reason is not doing well on pasture.

It means taking a little trouble in regulating the calving season, etc., to provide winter cows. We generally leave that to chance, but now we cannot afford to do that. Profit is what we are after, and if it takes a little trouble it pays in the end. We should have obtained higher prices for our milk last winter if the supply at the creamery had been greater. There is too much difference between the spring and fall receipts at that institution; 4000 pounds daily in spring cut down to 600 or 700 pounds in December. Yet there is little difference in the expenses of separating the two amounts. We must make an effort to keep up an average supply of milk the year around, then we shall not be afraid of the creamery shutting down when butter is high; on the contrary we shall realize greater profit.

Feeding.—The feeding problem is ever before the dairyman, what to feed and how to feed; everyone must be guided in a measure by circumstances. Those who farm bottom land have a greater variety of feed than the mesa farmer, but, by the use of machinery for working up feed in different forms, the latter may obtain variety and therein lies the secret of successful feeding—change of feed; not all the secret though, for the balanced ration is an important factor. While cows are on pasture, as they are here practically the year around, it is hard to get the proper proportion for balanced rations, but it is easy enough to obtain the analyses of our feedstuffs from good dairy papers, or from the State University, to enable us to come pretty near the proper qualities to give in order to get the best returns. Corn we can all raise, it may be cut and used green, preserved in silo, cut and dried for fodder or left to ripen to grain; the grain ground with the cob makes excellent feed and the dry stalks cut to ½-inch lengths or shredded are about equal to the usual run of hay we raise here except alfalfa. We haven't got so far as silos yet, but we've got to have them; they are not in the experimental stage now, they are in use all over the country and we must move with the times. A very good feed (and one that the cows relish exceedingly) is made by cutting green sorghum fine, together with dry cornstalks, mix them well and let stand for an hour or so, you will find the corn stover softened very considerably.

Alfalfa, of course, is the ideal feed, but we can't all raise it, even on the bottom lands, unless we get that hoped-for water system. Until we do we must make out with out old stand-by, corn.

Just a word about milk: not long ago a question was asked at a dairy meeting if creameries tended to spoil dairymen. The question arose because in that particular neighborhood a good deal of milk had to be rejected at the creameries on account of being sour; men who, when making butter at home were used to taking great care of their milk, got careless, gradually, perhaps, until they found their milk rejected. Now the condition in which the milk is delivered at the creamery is of vital interest to every patron, as well as the owners of the factory; good butter or cheese cannot be made from bad milk, and if a poor article is turned out from a creamery, that particular brand takes a low place in the market. Who suffers? The creamery manager may to a certain extent, but the bulk of the loss must fall on the patrons through lower prices.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

POULTRY SHOW.—Oakland *Enquirer*, Oct. 6: Arrangements have been completed by the Oakland Poultry Association whereby a combined show of poultry, pet stock, pigeons and dogs will be held in Oakland, December 6th to 9th next, under the auspices of that organization, assisted by the California Collie Club and the Pacific Pigeon Club. In the poultry department at least 1500 specimens, comprising every known variety of poultry, will be exhibited, coming from all over the coast. A special feature of this department will be the exhibit of dressed poultry, the ordinary barnyard specimen in comparison to the thoroughbred. The Pacific Pigeon Club guarantees 300 pigeons as their share of the exhibition, and the dog department, which will be under the supervision of the Collie Club, will be a general dog show for all classes. No less than 400 dogs, from the Great Danes to cockers, will be on exhibition.

Fresno.

CASH FOR RAISIN GROWERS.—FRESNO, Oct. 5: The directors of the California Raisin Growers' Association decided to make an advance on account to the growers from the sale of this year's crop. The first payment will be equal to the amount realized last year by the grower for his entire crop The advance is 2¼ cents per pound for two-crown, 3 cents for three-crown, 3½ cents for four-crown and 4 cents for layers.

Humboldt.

PRODUCE SHIPMENTS. — Eureka *Standard*, Oct. 7: Statistics show that, despite the lateness of the season, the month of September, with shipments amounting to 575,080 pounds, valued at $143,770, ranks third in the matter of butter export this year, which has furnished the three largest export months since the shipments of butter commenced. The shipments which exceeded those of the month just closed were those of May, with 588,310 pounds, and June, the banner month of the trade, with 603,970 pounds, both in this year. The September shipments of this year exceed those of last September by 76,010 pounds and those of August of this year by 98,078 pounds. As compared with the September shipments of butter for the preceding five years, those of September, 1899, were as follows:

1894	452,716	1897	419,640
1895	471,780	1898	399,070
1896	421,660	1899	575,080

Following is a comparison of the amounts of butter and condensed milk and cream shipped in September, with those shipped in the same month of last year:

	1899.	*1898.*
Butter, lbs	575,080	399,070
Con. milk and cream, cs	865	470

Los Angeles.

ORANGE GROWERS ELECT DIRECTORS.—Pasadena *Star*, Oct. 4: At a meeting of the Pasadena Orange Growers' Association the following directors were elected for the ensuing year: M. O. Randall, W. T. Clapp, M. H Weight, J. H. Woodworth, William Thompson, E. L. Farris and Byron Lisk; secretary, J. F. Jones. A dividend of 8% per share has been paid to the thirty stockholders. Although the association handled this year 2400 boxes of fruit less than last year, it paid out to stockholders $4000 more. Its receipts for the year were $17,773.

Mendocino.

THRESHING COMPLETED. — Ukiah *Dispatch and Democrat*, Oct. 6: John Brown has completed threshing in this valley, Redwood and Sanel.

Number bushels wheat	47,649
Number bushels barley	9,824
Number bushels oats	22,329
Total	79,802

Last year's crop was:

Number bushels wheat	65,256
Number bushels barley	16,731
Number bushels oats	18,290
Total	100,267

Monterey.

NO CARS TO CARRY WHEAT.—Salinas, Oct. 9: The Sperry Flour Company, which was compelled to shut down their mills in this city for several days recently for lack of wheat, has started up again on a twenty-four hours run. There is plenty of wheat in the county, but a scarcity of cars to bring it to the mill. The product of the mill at present is 650 barrels per day.

BIG BARLEY YIELD.—Salinas, Oct. 9: The barley crop in Monterey county is larger than it has been in many years. Supervisor Jordan of Castroville has the record for a large yield. He farmed thirty-five acres east of Noro Cojo in barley and harvested therefrom 1763 sacks, being a yield of about fifty and one-third sacks to the acre.

Orange.

POMOLOGICAL SOCIETY MEETING.—Anaheim *Gazette*, Oct. 5: The following partial programme has been prepared for the meeting which will be held in Anaheim November 2nd and 3rd: Call to order, Hon. Abbot Kinney, president; address of welcome, W. J. Fay, president Anaheim Farmers' Club; response, President Kinney; "Water Development," T. S. Van Dyke, C. E., Los Angeles; "Drying Fruits," J. B. Neff, Anaheim; "Green Manuring," J. W. Mills, Agricultural Experiment Station, Pomona; "Forestry," Hon. Abbot Kinney; "Storage Reservoirs," Hon. George H. Maxwell, San Francisco; "Scale Pests," Prof. A. J. Cook, Claremont; "Walnut Culture," Theodore Staley, Placentia; "Good Roads," George C. Hagar, Anaheim; "Marketing Deciduous Fruits," A. R. Sprague, Manager Southern California Deciduous Fruit Exchange, Los Angeles; "Care of the Citrus Orchard," C. C. Chapman, Santa Ysabel ranch, Fullerton; "Small Fruits," D. Edson Smith, Santa Ana; "Marketing Citrus Fruit," A. H. Cargill, Brookhurst ranch, Anaheim. After each paper a general discussion will follow, in which all, whether members of the society or not, are cordially invited to take part. The following is a list of the committees appointed: Arrangements—W. J. Fay, A. H. Cargill, Henry Kuchel, J. B Neff, J. B. Rea, Anaheim; Prof. Richman, Fullerton; Theodore Staley, Placentia; G. B. Bixby, Villa Park; D Edson Smith, Santa Ana; A. D. Bishop, Orange; L. W. Kirby, Peralta. Exhibits and Decorations — John Eyman, Theodore Meyer, Fred Spencer, C. G. McKinley, Mrs. J. J. Schneider, Miss Marie Horstman, Miss Annie Everhardy, Anaheim; A. A. Mills, Fullerton. Music—J. W. Whann, Anaheim.

Riverside.

OLIVE OUTPUT.—*Press*, Oct. 7: The new crop of olives will be ripe in about two weeks, and in ten days after new olives will be on the market. The crop will be about the same as that of two years ago in southern California, when 2000 barrels of pickled olives was the output. In the northern part of the State the crop will be the largest yet harvested.

CITRUS SHIPMENTS.—*Press*, Oct. 7: The total shipments of citrus fruits from southern California from Nov. 1, 1898, to Oct. 1, this year, aggregated 10,325 carloads, as compared with 15,006 in the same period in the previous year. This year, between July 3 and Sept. 29, only 358 carloads of citrus fruit went out of southern California. Shipments for November last year were almost nothing, and the same will be true this year. The quantities of lemons and oranges, by boxes, on the way to America on the date Sept. 16, for the last three years, are as follows:

	1897.	*1898.*	*1899.*
Lemons	33,500	36,200	54,600
Oranges	2,900	.....	.....

On Sept. 16 last there were in port to be sold 11,200 boxes of lemons.

San Bernardino.

BEET HARVEST —Chino *Champion*, Oct. 5th: The sugar campaign goes on smoothly and satisfactorily. The sugar percentage continues high, the average for the week being nearly 17%. The following is the record for the six days ending Wednesday night:

	Tons Sliced.	*Per Ct. Sugar.*	*Bags Sugar.*
Friday	794	16.0	2075
Saturday	634	17.0	2200
Sunday	728	16.1	1638
Monday	796	16.9	2261
Tuesday	777	17.6	2152
Wednesday	718	16.8	2285

It is expected that the Chino harvest will be completed by next Monday. How much longer the factory will be operated on Ventura county beets has not yet been determined. It is expected that a considerable part of the crop yet remaining out about Oxnard will be harvested as rapidly as possible and piled in order to save them in case copious rains come early.

San Diego.

RAISIN CROP.—*Union*, Oct. 5: The raisin crop in the back country is all picked and the grapes are now on the trays drying in the sun. A few raisins have already been shipped from El Cajon valley, but the majority are not yet cured. The drying weather has been all that could be desired and the raisins are expected to be of an unusually fine quality in consequence. In El Cajon valley most of the picking was done by Indians, who came down from the mountains. They have already returned to their homes. It is estimated that the yield in El Cajon valley will be sixty carloads, the majority of which will come from the Boston ranch. Grape picking is a thing of the past at Dehesa. The crop on the Weddle and Sheldon ranches is about the same as last year, while R. C. Allen has the largest crop produced on his vineyard for several years. The large yield on the Allen ranch is undoubtedly due to irrigation, and it seems to have been applied at the proper time, as Mr. Allen commenced irrigating the vineyard March 4th and finished on April 29th. During that period he pumped over 6,000,000 gallons of water on twenty-one acres of vines.

San Joaquin.

GOOD PRICES FOR ALMONDS.—Stockton *Mail*, Oct. 4: Assessor Ortman has sold his crop of almonds, amounting to sixteen tons, to M. P. Stein & Co. for 12½ cents a pound. This is said to be the highest price received by any one for almonds this season. The crop this year is shorter than usual.

THRESHING ON THE ISLANDS.—*Mail*, Oct. 4: Thos. Hitchcock of Roberts island raised a fine crop of barley this year, harvesting 4600 sacks from 160 acres. He says that there is still a great deal of grain to thresh on the island, and in some places it is not all cut. It will be three or four weeks before all the harvesting is finished. There is a noticeable falling off in the number of grain teams hauling to the warehouses here. Some of the farmers of large tracts still have a great deal of grain to haul, but most of the small farmers on the upland have finished.

San Luis Obispo.

IMMENSE GRAIN CROP —*Tribune*, Oct. 6: So great is the grain yield in San Luis Obispo county this year that the best authorities have been almost forced to give up the task of estimating it. That it will far exceed 300,000 sacks is agreed by all, and it would not occasion the least surprise if it runs above 400,000 sacks. There is a grain blockade in this county of such proportions never before known, and there are thousands of acres yet to be threshed. The depot of the Pacific Coast Railway is hidden from view by the great piles of barley. Where there were 40,000 sacks a few days ago, there are now over 50,000 sacks. And it is still coming in at the rate of close to 4000 sacks daily, a gain of 1000 daily within one week's time. The town of Edna is almost hidden behind her bulwark of grain. There it is stacked in many places, higher than the depot, and thousands of sacks are lying on the ground. The big hills of grain at Nipomo are growing larger. Every day between 800 and 1000 sacks arrive at that place.

Santa Clara.

THE PHYLLOXERA.—San Jose *Herald*, Oct. 3: Horticultural Commissioner Ehrhorn finds that the phylloxera is taking hold of the vineyards from the mountain tops down to the valley. But the growers see the danger and are preparing to renew their vineyards with resistant stocks.

POULTRY SHOW.—San Jose *Mercury*, Oct. 9: The fourth annual exhibition will be held December 20th to 23rd, inclusive. It is thought best to hold it during and in connection with the Golden Jubilee celebration, as there will then be a great number of people here from other sections of the State. The club promises the largest and best show of this kind ever given west of the Rocky mountains. It will offer a long line of money premiums and a splendid string of special prizes. Further information can be had of W. P. Lyon, secretary and treasurer, Edenvale.

GRAPE CROP.—San Jose *Herald*, Oct. 5: Our vineyardists are busy, as the vintage is fairly on. The grapes showed sugar ten days ago, but many of the wineries that started up were compelled to suspend operations, as it was found that the grapes were not fully matured. It is stated by parties who have traveled over the valley, looking into the wine question, that the grape crop is very light. The average price seems to be about $15 to $18 per ton, though one man stated that he received as high as $23 for some specials. The cool weather brought the grapes out and the recent warm weather had a tendency to dry them up, and the crop will be much lighter than was anticipated; but, on the other hand, grapes bring a good price, and it is confidently expected that wine will take a sharp advance as soon as the vintage is over, so that fair estimates of the yield can be made. The old vintage is nearly all out of the way.

DESTRUCTIVE FOREST FIRE.—*Mercury*, Oct. 10: A forest fire that had been burning slowly in a canyon near Wrights for nearly a week suddenly developed into a raging tempest of flame yesterday as the result of a high wind springing up, and before nightfall a large area of orchard was ruined. Hundreds of acres of vineyards were burned over, leaving only the blackened stumps of vines on the ground The heaviest loss was sustained by J. McCracken. Besides a number of acres of vineyards, two houses were burned on his place. Others who lost trees, vines and buildings were: Clyde McKenny, E F. Adams, E. C. Yocco, John Cave. The barn, fruit house and vineyard of Carl Allen was destroyed. The French lumber mills are a total loss. E. Moon lost house and barn; H. H. Woods of San Francisco, pumping house and machinery; San Jose Water Co, derricks, tools and implements at their new dam. It is the greatest forest fire in the memory of the oldest residents of that section. Once the winery of E. E. Meyers caught fire, and, as the water had given out, it seemed certain that the winery and the extensive buildings surrounding it were doomed. A suction pipe was then run into one of the big tanks and 8000 gallons of wine poured on the flames. By the use of this expensive fire-fighting fluid the buildings were saved.

Santa Cruz.

HOP PICKING.—Watsonville *Pajaronian*, Oct. 5th: The hop picking season was closed in M. B. Tuttle's and Wm. McGrath's yards this week, and Rodgers Bros. and G. M. Bockius expect to finish this week. The Morse and Stow yards will wind up the season next week. The crop of the Pajaro valley will be about 275 tons dried.

Solano.

NEW CREAMERY COMPANY —Dixon *Tribune*, Oct. 6th: The Dixon Creamery has been organized with a capital stock of $5000. The par value was placed at $25, 120 of the 200 shares being subscribed for. The following were elected to serve as directors: H. E. McCune, James Millar, Louis Sanders, A. A. Osborn and C. M. Kirby. H. E. McCune was elected president; James Millar, vice-president; Bank of Dixon, treasurer; A. A. Osborn, manager; F. A. Hutton, secretary.

FRUIT SHIPMENTS.—Vacaville *Reporter*, Oct. 7th: Eastern shipments of fruit for the season of 1899 amounted to 663 cars up to the 1st of October. This is an increase of 353 cars over the shipments for the year 1898, when the total eastern shipments were 310 cars. We are indebted to Frank Ellison, agent of the Southern Pacific Railroad, for the following figures, which include the shipments of green and dried fruit east by months:

	Green Fruit.		*Dried Fruit.*	
	1898. Cars.	*1899. Cars.*	*1898. Cars.*	*1899 Cars.*
April	2	0	1	2
May	32	32	2	11
June	160	172	5	4
July	33	170	2	0
August	39	175	1	5
September	44	114	8	9
Total	310	663	19	31

Sonoma.

LARGE PEAR —*Index-Tribune*, Oct. 7: There is on exhibition in F. Clewe's store a mammoth pear, grown on Adolph Spreckels' ranch. The pear weighs three and one-quarter pounds. It is 8 inches in length and 17 inches inches in circumference.

WINERY ENLARGED. — Santa Rosa *Republican*, Oct. 5: E. Schirmer of Sebastopol, has enlarged and improved his winery till it is practically new. He has increased the capacity of his cellar from 50,000 gallons to over 125,000 gallons, and is paying $17 a ton for grapes. The main building was doubled in size, 75,000 gallons of new cooperage was added and a new engine, must pump and steam press take the place of the old plant.

NEW WINERY.—*Republican*, Oct. 2: Out on Goose creek, a mile beyond Mark West springs, there is a new winery. It was built by Light Brothers of Calistoga; its capacity being nearly 175,000 gallons. The winery was built expressly to handle the grapes grown on the mountains and the winery will crush 500 or 600 tons next year. New vines will greatly increase the tonnage. Most of the growers have sold on five years' contracts for $10 a ton and $1 additional for each cent over 10 cents per gallon the wine brings.

HEAVY YIELD OF GRAPES —Santa Rosa *Republican*, Oct. 2: Over fifty tons of grapes from eight acres of vineyard is a pretty good record, even for the valley vineyard, and it reaches the phenomenal when produced by mountain vines, the average of which is more apt to be two tons than nearly seven to the acre. The old Tarwater vineyard, now farmed by Will Goodman and J. M. Reed, produced fifty-two tons this year.

QUALITY OF VINTAGE GOOD.—Sonoma *Index-Tribune*, Oct. 7: This valley is now in the midst of the vintage season and grape picking in the vineyards and grape crushing at the wineries are being rushed through as speedily as possible. The grapes for wine making are all that could be desired, the hot weather the past few weeks bringing them up to the pink of perfection in so far as the percentage of sugar is concerned. All is life and bustle at the Gundlach-Bundschu, Dresel, Lounibos, Chauvet, Wegner and other wineries in Sonoma valley. All agree that the vintage of 1899 gives promise of being one of the best in regard to quality that has been produced in this valley for a number of years, although in quantity the product will fall way behind that of former years.

Tulare.

BEE KEEPERS' MEETING. — *Register*, Oct. 6: The Tulare County Bee Keepers' Association met to-day. After routine business J. W. Walker and J. Gregg were admitted to membership. The inspector's report was read and the matter of foul brood was discussed. It was decided to make an effort to secure quarantine regulations for bees coming into the county.

OREGON.

HOP COOP.—*Oregonian*: Speaking of the hop situation, Captain George Pope said: "The situation of Oregon's hop crop this year is a peculiar one. Four weeks ago the most conservative grower or dealer had made up his mind that nearly 100,000 bales would be produced in this State. The hops were on the vines, and no doubt the quality would have been excellent but for the heavy rains in August, which imparted new life to vines, and fresh strobiles began to set on laterals that could not have come to maturity at so late a date. In addition to this, the core of the burr grew continuously under conditions produced by the August rains and the warm weather of this month, so that growers were confronted by a problem that puzzled them. Kilns which in former years could be dried in eighteen hours could not this year be taken off in less than twenty-four to twenty-six hours, and in some cases even thirty hours were required to take off a flooring of moderate size. This threw the drying machinery out of shape. The hops, owing to the cool weather of August, were backward. Picking of them did not become general until about Sept. 10th, so that all large yards have suffered considerably. Entire yards have been abandoned on account of the rapid spread of mold, with the result that the crop has been cut down to about 70,000 bales. The quality of these 70,000 bales will range about 10,000 bales choice, 30,000 to 40,000 medium and the remainder indifferent."

WASHINGTON.

GRAIN CROP.—Seattle *Times*, Oct. 3: Grain Commissioner Wright estimates the yield of wheat for the State this season at 15,000,000 bushels, or about two-thirds of a crop New wheat is beginning to move freely, yesterday being the banner day of the year, 113 cars rolling into the city. The new wheat is unusually varied. The prevailing grade is No. 2, running from that down to rejected, and in some cases rising to No. 1. The season furnishes practically no choice milling and heavy demands are being made on this quality held over from last year. Advices received by Mr. Wright indicate that a larger wheat acreage has been sown this fall than last. The wheat is being sown earlier than ordinarily, and Mr. Wright says he has never known a poor crop to result when wheat got a good start in the fall.

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THE HOME CIRCLE.

"The Man With the Hoe."—Who?*

He was my father, sir, and king might wear
his "brow;"
He reasoned me to God, and *thought* behind
the plow.
Ob, verseman false, repair! unstring thine
arrowed sling!
Thy "brutal jaw," thy "brow aslant," thy
"stolid thing,"
As imaging the toiler clothing earth with
grain,
'Tis brutal slander, moth—on prince of labor
stain.
Good knight of the glebe, stand proud of
thy hoe!

The father of my children's mother, too—he
wrought
Six days in harness of the farm, the Sabbath
taught.
In arts, in law, I've seen at front the sons of
soil,
And milking maid by merchant sought with
glad encoil.
Thou city strong, pick out the *country* strand
o' thy cord,
How snap thy husiness lines, thy morals how
abhorred!
Bronzed knight o' the field, blanch not at
thy hoe!

When thou, liege host to hungry men, thy
hoe in scorn forsake,
Of whose green corn shall Markham, pray, in
scorn partake?
Lord almoner to queen, to maid of plaided
yoke,
Sun, Rain and God thy partners grand at
every stroke,
Is't more or less than kin to Balaam's friend
who mocks
Of thee, "to rapture dead, a brother to the
ox?"
Thou heart of hard work, we bow to thy hoe!

We thousand Vales, that mother fond the
fruiting vine,
We thousand Plains, where million reapers
garner grain;
We thousand Hills that graze, and green' fore
God do nod—
Protest we all—we live not servants to a clod!
Likewise, we million meadowed Homes, half-
like to heav'n.
Confirm our fatherman of earth the hope, the
leaven;
Ye scribes of embroil, beware of his hoe!
—James Clement Ambrose.

Evanston, Ill.

*Reply to Edwin Markham, socialist, who bewails the earth worker's lot as producing a "brutal jaw," "a slanted brow," "a brother to the ox" and the like.

Mr. Oddie's Courtship.

Mr. Markham Oddie was a model lodger, an old bachelor, and a heart-whole man. That is to say, he was all three until the day—considerably past his fortieth birthday—that a special fate took him in hand, and brought him face to face with the younger of two women who had recently come to live in one of the houses opposite. They were evidently mother and daughter; both were comely, and the last named of the two had one of the sweetest faces it had ever been Mr. Oddie's luck to behold. She happened to drop a small parcel while walking along their mutual road, and he hurried after her with it. Immersed in her own thoughts, the woman did not hear him call politely to her, and quite colored up when the packet was presented; but the smile with which she received it went straight through Mr. Oddie's somewhat antiquated waistcoat. All the evening he thought of that smile. When he went to bed he endeavored, with the aid of three candles, to get an impartial view of that region on the top of his head where the hair ought to have been, but now, alas, was not. The bald spot had not troubled him much up to that time, now he regarded it with mistrust. However, Mr. Oddie comforted himself with the reflection that many men at his age were much balder, and that his moustache was what you might call spruce.

Mr. Oddie had led an amiable, punctual, uneventful existence, going to and returning from the city every weekday with regularity and dispatch. He was comfortably off, and had no one dependent upon him. Now and then a batch of country cousins came up to town on pleasure bent; Mr. Oddie thereupon exerted himself valiantly to conduct them to Mme. Tussaud's, the Tower, the British Museum and other places of wild excitement.

Mr. Oddie had remained a bachelor all these years possibly because nobody had set to work to marry him. It was not that he objected to women; on the contrary, he admired the fair sex, as a whole, quite unreservedly, and had the nicest of dear, old-fahsioned notions about them. But he had never given his heart to any particular woman, and his landlady looked upon him as a fixture.

The returning of that apparently innocent-looking parcel marked an epoch. Life was never the same again to the bachelor. He had not watched Miss Hexham's gentle face and well-developed but graceful figure for ten days before he became convinced that it was not good for a corn dealer to live alone. "It hardened him," said Mr. Oddie to himself, and he stirred his coffee with self-reproaching sternness. "A man wanted softening influences about him; he needed a gentle hand to guide and restrain him." Mr. Oddie at this point discovered that he had forgotten to his wind his watch up the night before.

The truth was, he was in love, and a with young woman with whom he had never exchanged a syllable. He learned her name from his landlady, an austere person, whose mind was set upon a curious form of religion, and who did not take much thought about frivolous, worldly matters.

Questioned discreetly by her lodger, this worthy but depressing person could tell him little regarding the two ladies who were now the objects of such tender interest to him. They were a Mrs. and Miss Hexham, so she had heard, and Mrs. Hexham was either deaf or dumb, or it might be both, for her daughter talked on her fingers to her, and she answered back in the same way.

"As sharp as lightning they do it, I'm told," remarked Mrs. Roper, heaving a deep sigh. Will you like a few peas, biled with a sprig of mint, with your dinner to-night, sir?"

Clearly there was not much information to be got out of Mrs. Roper, a woman not given to ordinary gossip.

Mr. Oddie's courtship was a very decorous affair. In Spain, despite his years, he would doubtless have adopted the role of an "iron eater," as the youth who goes courting under his lady love's balcony is styled. But in sober, unromantic England the suitor does not eat iron, or serenade the queen of his heart on the guitar. He has to be properly introduced, and the little corn dealer, knowing this custom, would have given anything for an introduction which would have allowed him to call and establish friendly relations. The months passed, and still he could not get that thin but necessary end of the wedge in. In a village he would certainly have managed to become acquainted with the Hexhams in a week, but London people pride themselves upon having nothing whatever to do with their neighbors living in the same street. The mother and daughter seemed to have very few friends, and never went out, probably on account of Mrs. Hexham's affliction. It was hard upon the daughter, Mr. Oddie thought, but he admired her all the more for her self sacrifice. She was an angel, if ever there was one.

Miss Hexham became aware of his devotion, of that Mr. Oddie was convinced. When they met—and he took care that they did meet pretty often—he ventured to raise his hat, and smiles were exchanged. But there the affair halted, to the poor little man's frequent despair. He could get no "forarder." Once, when he attempted to speak, Miss Hexham turned the color of a red rose and promptly hurried away.

"I have never been properly introduced, that is why," was Mr. Oddie's anguished reflection. "She must have been exquisitely brought up; the very pink of propriety."

He grew quite thin and lost his appetite, which made Mrs. Roper regard him with concern, for he was a jewel of a lodger, and she did not want to lose him. She suggested a tonic, but Mr. Oddie knew that no tonic would help him,—at least no medicine so called. He wanted a draught of the magic elixir of love to cure his complaint.

"Something will have to be done," cried the poor man, desperately, on the day that he went to the city without a tie, and an unfeeling acquaintance jeered at him and inquired if his liver were out of order. His liver! Perish the thought! It was his heart. He did not know that the first-mentioned organ was considered by the ancients to be the seat of the affections. Mr. Oddie would have consulted a friend had he owned one who would have sympathized with love's elderly dream and not laughed at it. But he decided at length that, like Hezekiah, he would ask for a sign from heaven. He would send the object of his adoration a bouquet, an anonymous buquet of the choicest; she would surely guess from whom it came. If she placed it in the window, he would write to Mrs. Hexham, explain himself and his intentions, and request permission to call.

Mr. Oddie took a holiday the day the bouquet was sent off from Covent Garden; to sit still in his office was a thing impossible. He went for a long walk, but where his neat little legs took him he was never able to say.

The next day the agony increased; there was no sign. Mr. Oddie fell plump into the depths of despair, and was convinced that he had offended his lady love. He had not been properly introduced; the phrase became a perfect nightmare to him.

But the second day there was the bouquet in the window in all its glory, and moreover, Miss Hexham was bending over it inhaling its perfume. Mr. Oddie could see her wavy chestnut hair and white forehead. She was a beautiful woman; not too young for a man—ahem—in his prime. The wonder was that such a treasure had not been snapped up before.

Markham Oddie wrote to Mrs. Hexham; it took him hours and hours to compose the letter, and it was the most delicious, old-fashioned epistle ever penned in a practical century. No nice woman could have read it without being touched. Two whole days elapsed before a little note came in reply:

"Mrs. Hexham presents her compliments to Mr. Markham Oddie, and would be pleased to see him, if he could made it convenient to call, this evening between eight and nine o'clock."

The note was a formal one, but when the agitated little old bachelor was shown into the sitting room at Holmwood, Mrs. Hexham, who was alone, received him with a very kindly smile. Her eyes looked as if she had been crying.

"Please take a seat," she said. "It has been very close all day, has it not?"

"Terribly," answered the visitor. "Do you feel the heat much?"

"Yes, I am afraid I do," was the reply, and Mr. Oddie suddenly recollected that this future mother-in-law was said to be deaf and dumb. This lady was certainly neither.

"My daughter," said Mrs. Hexham, after a pause, "desired me to tell you how very grateful she is to you for your letter and the flowers. She has gone away for a short time to stay with friends. She—she thought it best."

Mr. Oddie sat there, unable to utter a word. "She had gone away, because she thought it best." That meant that there was no hope for him.

Mrs. Hexham's eyes filled with tears as she looked at him. "Oh," she cried, "I am so sorry—so very sorry! You are such a good, kindhearted man, I am sure. Of course, you did not know, or you would not have thought of it."

"Thought of what?" asked Mr. Oddie, heavily.

"Of marrying my poor Agatha. You did not know that she is deaf and dumb?"

Mr. Oddie stared at the speaker in blank amazement; it was fully a minute before he grasped the significance of what she was saying. It was the daughter, not the mother, who was "afflicted," as Mrs. Roper would have phrased it. Never once had this possibility entered Mr. Oddie's head. He was silent, and Mrs. Hexham continued.

"My poor girl is very sensitive, and your kindness went to her heart, I can assure you. I was to be sure and say that she would always keep the most greatful remembrance of you."

Mr. Oddie pulled himself together, and rose to his feet. At this moment there was something almost noble about his rather tubby little figure.

"Madam," he said, firmly, "your daughter is an angel, and I love her. Will you have the goodness to give me her address,—that is, if you will sanction my asking her to do me the honor to be my wife?"

Mrs. Hexham wiped her eyes and began to smile in an April-like fashion.

"It seems rather unconventional," she said; "but it is not exactly an ordinary case, is it? And I am sure your are a good man. Mr. Sedley, the vicar, was talking about you only the other day, and saying how charitable you were. Agatha has the sweetest disposition, and she is so quick you can hardly realize that she is not like other people. Indeed, I think you would be very happy together."

"I think we three would be happy together," answered Mr. Oddie, emphasizing the "three." He took the widow's hand and kissed it with old-fashioned gallantry.

"Now," he said, "you must tell me where Miss Agatha is, and let me go and try my luck."

It is unnecessary to mention at what unearthly hour Mr. Oddie required his breakfast the next morning, or to state that he hardly ate a mouthful of it.

In the afternoon of the same day Mrs. Hexham might have been seen reading a telegram, with a beaming face. It was not a long one, for it contained only five words: "Love from Agatha and Markham."

Fruit An Antidote for Liquor.

A writer in a European temperance journal calls attention to the value of fruit as an antidote to the craving for liquor. He says: "In Germany, a nation greatly in advance of other countries in matters relating to hygiene, alcoholic disease has been coped with successfully by adoption of pure diet and natural curative agencies. I have said that the use of fresh fruit is an antidote for the drink craving, and this is true. I have met workingmen who have told me that the use of fresh fruit has often taken away the craving for drink; I met a clergyman recently who assured me that a diet consisting largely of fruit had taken entirely away a hereditary craving that had troubled him for years. It may be asked, How can fruit and pure diet do all this? The explanation is simple. Fruit may be called nature's medicine. Every apple, every orange, every plum and every grape is a bottle of medicine. An orange is three parts water—distilled in nature's laboratory—but this water is rich in peculiar fruit acids medicinally balanced, which are specially cooling to the thirst of the drunkard, and soothing to the diseased state of the stomach. An apple or an orange eaten when a desire for 'a glass' arises would generally take it away, and every victory would make less strong each recurring temptation. The function is not so much to provide solid nourishment as to supply the needful acids and salines for the purification of the blood. Once get the blood pure, every time its pure nutrient stream bathes the tissues of the body it will bring away some impurity, and leave behind an atom of healthy tissue, until in time the drunkard shall stand up purified, in his right mind."

A CIGARETTE is said to have soliloquized: "I am not much of a mathematician, but I can add to a man's nervous troubles; I can subtract from his physical energy; I can multiply his aches and pains; I can divide his mental powers; I can take interest from his work and discount his chances of success."

"I TOLD him he wasn't my ideal man and he told me I wasn't his ideal girl."

"And then?"

"Then we felt perfectly safe to go ahead and get married."

Indian Summer.

Withal there comes a time when summers wane,
When from the sunshine something seems withdrawn,
And pensive shadows lengthen on the lawn;
White hindweed wanders lonely in the lane,
The one sweet thing that now unwithered doth remain.

But there is beauty in autumnal hough
No less than in dear April's dewy leaves,
When with its store of golden-girdled sheaves
Piled stands the wain where one time passed the plough,
And ripened labor reaps fulfillment of its vow.

Then, though no more the oblivious cuckoo calls
From land to land, nor longer on the spray
Of yellowing elm the throstle vaunts his lay,
The ringdove's mate, as fades the leaf and falls,
Reiterates its note of love and never palls.

Though fluttereth still the soul-like lark aloft,
There is a quiet in the woodland ways,
The retrospective hush of vanished days,
And, around garden close and orchard croft,
A something in the air celestially soft.

From hamlet roofs blue spires of smoke once more,
As dies the day in mist along the dale,
And widowed evening weeps behind her veil,
From log-replenished ingle heavenward soar,
And lamps are early lit and early latched the door.

—Alfred Austin.

Autumn.

The leaves have loosed their last faint hold,
By death to earth re-won;
The gaunt tree rattles in the cold,
A shivering skeleton.
The red vine drips adown the sills
Like blood from Nature's heart
That throbs its anguish out and chills
As hope and life depart.
The birds grow silent one by one
And Summer's tender days are done.

—Kate A. Benton.

Drink Fruit Juice.

What shall we drink is a question asked and answered by E. H. Chase in the magazine "What to Eat." He says:

What shall we drink? Not coffee, says the modern writer on health, for it works on the nerves and aids neuralgia to hold its fearful carnival of pain through all the overwrought system. Not tea, unless we want our stomachs poisoned with tannic acid, and our sleeping hours turned into a torture of wakefulness. Not wine, for "it giveth its color in the cup and behaveth itself unseemly," and its color is often derived from a source less innocent than the luscious grape. Not water, for lo! it swarms with ten thousand living organisms that are there on purpose to prey upon the unsuspecting imbiber of the unfiltered article. Not milk, for where water contains one microbe milk contains an army, and often they are of a more deadly nature. Therefore we who read as we run look about us for somethink to drink and are yet athirst.

However much reason there may be in all this for foregoing the drinks of our fathers, there is no doubt that our teeth have been set on edge by the amount of talk on the subject, and the need of something to drink that has not a menace in it has become pressing, especially for those people who have become hypochondriacal over the matter.

Boiling water takes from it the sparkle and leaves it insipid. Boiling milk changes both its taste and its action. Fruit juices, when such can be obtained free from adulteration, are not only agreeable to most people, but are healthful as well. A home preparation of fruit juices, in variety, may be had by every family willing to prepare them, at a sight cost. They should be securely sealed in jars, wrapped in brown paper to exclude the light, and labelled. In early spring both oranges and lemons are plentiful. These may be prepared as follows: Remove the rinds from a dozen oranges, slice and remove the seeds; cover with water and boil fifteen minutes, or until tender, strain through a flannel bag, and add a cup of sugar; return to the kettle and boil until the sugar is dissolved, stirring constantly; seal boiling hot and stand the jar on its head until cool.

Lemons are prepared in the same way, except that more water may be added, and two cups of sugar to the pint will not be too much.

Strawberries, raspberries, plums and blackberries follow in their season, and should be pressed into service for this purpose. Berries need but little boiling, if stirred well, and a cup of sugar to two squarts of juice will be ample. Prunes, damsons and grapes must be well washed, and the water in which they are to be boiled should come up well over them. They must boil until broken and tender throughout.

To prunes but little sugar should be added, but to the damsons and grapes at least two cups of sugar to two quarts of juice. The bag must hang and drain, and not be pressed, if one desires the juice clear. A basket of grapes will make several quarts of juice.

Crabapples and sour apples of every kind make a very pleasant and healthful drink. These must be prepared with care, well washed, the steams, blossom ends and all specks and bruises removed, and allowed to boil until all flavor is extracted from them. If the parings are left on, the color will be brighter. Too much water can hardly be added at first, but when strained the juice should be boiled until of proper flavor for a beverage.

For a laxative diet, make first of all an abundant use of fats. If bread is used, it should be whole wheat bread, with a goodly quantity of butter; masticate it thoroughly. At least once, and better twice a day, take lettuce, or cress or tomatoes, with plenty of oil and very little acid, the acid used being lemon juice and not vinegar. Eat also a little fat with meat, and masticate thoroughly. Tea should not be used; and just before taking coffee, drink at least half a glass of cold, not ice, water. Take a half pint of water the first thing in the morning and the same quantity before going to bed.

"I don't see," said the old man, "why chopping wood isn't as good exercise and just as enjoyable as playing golf."

"It is the walking between strokes that makes golf so valuable an exercise," explained the boy.

"That equalizes matters and gives the legs the exercise that they need."

Thus it happened that the old man went out into the yard and placed sticks of wood at intervals all around it, after which he handed the boy an axe and told him to play the full course.

Young Lady (to her father)—Harry proposed last night, papa.

Papa—What did you say?

Young Lady—I asked him to give me a little more time, and he said he would give me the usual thirty days, or 5% off for cash. Then he stopped and apologized. I really don't know what to think of him.

Papa—That young man is full of business. You cannot say "Yes" too quickly.

YOUR dealer in lamp-chimneys—what does he get for you?

You can't be an expert in chimneys; but this you can do. Insist on Macbeth's "pearl top" or "pearl glass" whichever shape you require. They are right in all those ways; and they do not break from heat, not one in a hundred. Be willing to pay a nickel more for them.

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DOMESTIC ECONOMY.

Serving Fruit.

The art of serving fruit artistically should be studied quite as much as the art of serving it palatably. No one will deny that the appearance of a dish has a great deal to deal to do with one's enjoyment of it. Fruits properly arranged form a handsome center piece when flowers are not available. Red apples make a pretty dish when wiped with a damp towel, and arranged in a fruit dish with some sprigs of green here and there among them. Oranges and apples are nice served together, also pears and apples.

In serving bananas, cut the ends from the fruit and serve whole, with oranges, pears, or prunes. Another way is to peel, slice, and serve with sweetened whipped cream, or alternate slices of sweetened bananas and oranges form a delicious dessert.

Currants may be served in large clusters on the stem, the red and white mixed, and make a pretty dish, but a more convenient way is to serve them picked from the stem, sprinkled with white sugar. In either case they should be carefully washed in cold water and drained, before serving. Currants and raspberries served together are delicious. Only the ripest of currants should be used. Raspberries, blackberries, blueberries, etc., should be carefully looked over, and washed in cold water if necessary. They should then be drained on a sieve or colander. Serve with sugar and cream; whipped cream is nicer and should be kept very cold. If strawberries require washing, dip only a handful at a time in water, then hull them and serve with sugar and cream. Do not add the cream until the fruit is passed at the table, as many persons prefer it without, and if cream stands on the berries only a few minutes it is apt to curdle.

Serve cherries on their stems, the different colors gracefully piled in a fruit dish, with green leaves here and there among them.

Gooseberries are delicious when perfectly ripe and sound. Wash them, drain and pile in a glass dish. Sprinkle with sugar.

Pineapples should be carefully pared, the eyes and core removed, sliced, sprinkled with sugar, and covered with a cup of orange juice. Thus prepared they are fit for the gods. Let the dish stand on ice or in the refrigerator for an hour or two before serving. Pineapples and oranges served together in silces, properly sweetened, exceedingly nice.

A very pretty way to serve oranges is to cut the skin in eighths, two-thirds down, and after carefully loosening them from the fruit, leave them spread out like the petals of a lily. Oranges sliced and sweetened, mixed with fine, ripe strawberries, are very palatable.

Grapes should always be washed in ice water and drained before serving. Care should be taken not to break the bunches. Different colored bunches look well together on a bed of their own leaves. Yellow pears and crimson-cheeked peaches are very pretty together. Carefully wipe the down from the peaches. Serve them with the richly tinted leaves of the coleus for an edging, and a sprig of it on the top. Plums are also very artistic served with the velvety leaves of the purplish coleus. Plums and green grapes form a fine color harmony.

Melons should be washed and put on ice until needed. Cut off a slice at each end, that each half may stand upright on a plate. Then cut around in even slices. Cantaloupes may be divided into eighths or sixteenths, the seeds removed, and the melon put together again. Serve surrounded with ice on a bed of crimson coleus leaves. Do not allow the ice to come in contact with the flesh of the melon, as the moisture will injure the delicate flavor.

One of the best washes for preventing the hair falling off is tea made from sage leaves, and a little pure glycerine rubbed into the roots of the hair is an excellent thing for dry hair.

Hints to Housekeepers.

The tops of worn out shoes and boots make the best iron holders.

Lime water mixed with sweet oil is one of the best remedies for burns, and the blue bag is another.

Crape should always be used for brushing velvet, and the latter, made into a pad, for brushing silk hats.

An excellent china cement is composed of plaster of Paris, gum arabic, and sufficient water to form a thick paste.

This is worth knowing, and those using gasoline stoves would do well to remember it—flour will extinguish a blaze when other methods fail.

The neatest way to mend a small tear in a dress is to darn it with threads of its own material, and to press them with a hot iron.

The inside of a banana skin is excellent for cleaning tan shoes, which, when they dry, will, when rubbed with a soft duster, attain a high polish.

Kneading cabbage for making cold slaw will make it very tender, and it then does not require chopping. Be sure and knead all the water out.

The best polishing cloths are made of velveteen or old newspapers, and if blankets are scarce, two or three sheets of brown paper placed under the counterpanes are excellent substitutes.

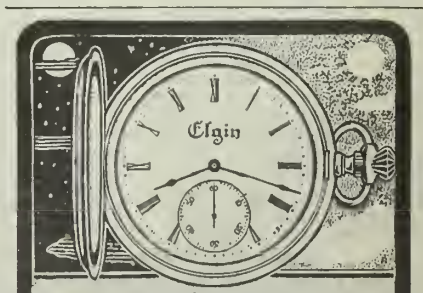
Sandwiches that are to be served at an afternoon tea should not be spread with butter or the filling mixture quite to the edge of the bread. This little precaution will prevent their soiling the gloves of those who hold them.

Sometimes, in close, warm weather, sausages very soon turn sour; to prevent this, put them in the oven for a few minutes with a small piece of butter to keep them moist. When wanted for table, they will not require so long frying as uncooked sausages.

When velvet has been wet and becomes spotted, hold the wrong side over steam, and while damp draw the wrong side quickly over a warm iron. It takes two to do this well—one to hold the bottom of the iron upward and the second to draw the velvet across it.

Paint, pitch or tar can be removed from cloth or wood by rubbing with turpentine. If the paint has become dry, put a few drops of turpentine on the spot and let it stand a short time; then rub the spot, and if all the paint is not removed, repeat the work. When entirely gone, rub off with alcohol.

Book-cover linen is the descriptive name applied to a wall paper much in use this spring. It is without a pattern and comes in a considerable range of color. In a dining room and basement hall recently fitted with this paper in a bright scarlet shade, the woodwork is painted a light olive green. As there is ample light, the effect is exceedingly good, contributing at once richness and cosiness.



DAY AND NIGHT
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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 11, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	73⅝@73½	76⅝@76
Thursday	73⅞@73¼	76¾@76¼
Friday	73⅜@72½	76⅜@75½
Saturday	72⅝@72⅞	75½@75⅞
Monday	*——@——	——@——
Tuesday	71⅞@72⅜	75 @75⅝

*Holiday.

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	6s 1½d	6s 4 d
Thursday	6s 1¾d	6s 4 d
Friday	6s 2 d	6s 3¾d
Saturday	6s 1¾d	6s 3½d
Monday	6s 1½d	6s 3⅜d
Tuesday	6s 1 d	6s 2¾d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 13½@1 14¼	1 19⅜@1 19¾
Friday	1 13⅜@1 12⅝	1 18 @1 18⅜
Saturday	1 13½@——	1 18¾@1 18⅝
Monday	1 13¼@1 13	1 18½@1 18¼
Tuesday	1 12¾@1 13	1 17⅜@1 18¼
Wednesday	1 13½@1 14¼	1 18¼@1 19¼

Wheat.

The market for spot wheat or for immediate deliveries remains quotably in same position as a week ago, although in the speculative field there has been a decline in prices of all options, based on an increase in the visible supply in this country and in Europe, the increase in the visible in the latter continent being given at 2,500,000 bushels, mainly attributable to heavy shipments from Russia. Chicago shows a decline for the week of about 2c per bushel. Liverpool declined about 3c per cental on December, and about 4c on March. In the local market the break was less pronounced, Call Board values dropping only about a cent. The increased needs of exporters on account of the recent additions to the engaged fleet, and the absence of noteworthy selling pressure on the part of wheat holders, combined to prevent prices in the sample market from receding. Option market at this writing shows more firmness than for several days, recording a recovery of fully a cent on Wednesday noon.

While the market for wheat displayed less excitement than for the two weeks preceding, there was a generally healthy tone. When there is little or no excitement in the speculative field, as has been the case the past week, values in the spot market are put to a severe test, and when they do not incline materially in favor of buyers, it is a very good sign that existing conditions fully warrant the prices ruling. With an increase reported in the visible supply in the United States, and the world's shipments showing a decided increase, aggregating about 8,000,000 bushels for the week, it would not have been surprising if values for spot wheat had receded slightly. The bears are keeping very close to shore, so far as shorting wheat is concerned, and this feature indicates unmistakably that there is a good undertone to the market. Although the bears are natural wreckers, and are worse than the vultures, as they are largely instrumental in producing the carrion on which they subsist, or in bringing to financial ruin the victims they allure into their nets, it must be said in their favor that none are better posted on the exact status of the market. They will frequently take great risks and sell short in unwarranted fashion, playing a sort of bluff game, counting on their own shrewdness to pull them through safely, as also on the weakness and lack of craftiness of their opponents or intended victims. It is very evident that values are on a low plane, all things considered, and are more likely to advance than to recede, or the bear contingent would show no timidity about shorting the market freely and heavily. The numerous additions recently made to the wheat loading fleet in this port have not yet resulted in noteworthy increase of clearances, but it is too early to expect the same. In three or four weeks some lively times may be looked for in the clearance of wheat ships, as lay days will then begin to expire on the fleet lately added to the engaged list. Ocean freights are fairly firm at 35s to 36s 3d on iron ships carrying wheat to Cork, U. K., for orders, usual option as to final destination.

California Milling	$1 08¾@1 15
Cal. No. 1 shipping, alongside	1 07½@1 10
Oregon Valley	1 06¼@1 10
Walla Walla Blue Stem	1 08¾@1 12½
Walla Walla Club	1 02¼@1 10
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.12¼@1.14¼.

May, 1900, delivery, $1.17¾@1.19¼.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.13¼@1.14¼; May, 1900, $1.18¼@1.19¼.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s4d@—s—d	6s3½d@6s4d
Freight rates	22½@25s	35@37s
Local market	$1.15@1.17½	$1.07½@1.10

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The market remains in all essential respects practically the same as previously noted. Current values for flour afford little or no profit to producers, but competition to secure trade is quite sharp and cutting. There is more flour offering at present rates than can be accommodated immediately with buyers.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

The demand for this cereal on export account continues good, and was never of more liberal proportions than it has been the current season up to date. Fully half a dozen ships are now on the engaged list which have been chartered to take barley as a whole or part cargo. One ship arrived this week under charter to carry a full cargo of barley to Cork, U. K., for orders to United Kingdom, Havre, Antwerp or Dunkirk. The ship in question will carry about 2,600 tons. The freight rate in this instance is £1, 17s., less the equivalent of $9 per long ton, or 40c per cental. This is a stiff figure, and the highest yet reported this season, although it is not very materially above recent quotations, when it is considered that barley is more bulky than wheat, and shipowners invariably exact a higher figure for carrying it, especially when it constitutes the entire cargo. A smaller vessel was chartered on spot for barley and [or] wheat at same figure. Aside from the export trade, the market did not display much life, and a large portion of the export buying was done in the interior, so that the effects thereof in this center were only felt indirectly. Prices were well sustained throughout, and especially was the market firm at current rates for choice to select brewing qualities, and for high grade feed barley, suitable for delivery in 100-ton lots on Call Board contracts. Most of the purchasing by local feed mills was, as for some time previous, in off qualities, market for latter continuing easy in tone. In the speculative market trading was of a rather light order most of the week, and fluctuations kept within narrow bounds. There was no particular preference given for either of the three options now in force—Seller 1899, December or May delivery.

Feed, No. 1 to choice	85 @ 86½
Feed, fair to good	76¼@ 83¾
Brewing, No. 1 to choice	90 @1 00
Chevalier, No. 1 to choice	1 10 @1 15
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 85@86¼c.

December, 1899, delivery, ——@——c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, ——@——c. Nothing was done in barley options.

Oats.

There has been no very active demand experienced since last review for oats of any description. Such transfers as were effected, however, showed values to be fairly well maintained at previous range. Business was principally in Red and Gray oats or in the cheaper grades of Whites. Choice to fancy White oats were not plentiful, and were not urged to sale to any noteworthy extent, most holders preferring carrying to unloading at current rates. Surprise continue scarce, and only nominal quotations for this variety can be given at present date. Tolerably large shipments of oats are being made to the Hawaiian Islands and to the Philippines, the latter on Government account.

White Oats, fancy feed	1 12½@——
White, good to choice	1 07½@1 10
White, poor to fair	1 05 @1 07½
Gray, common to choice	1 05 @1 10
Milling	1 10 @1 15
Surprise, good to choice	1 15 @1 20
Black Russian	90 @1 00
Red	90 @1 10

Corn.

Market is very lightly stocked, and is likely to continue so for at least a few weeks to come, or until new Eastern becomes sufficiently seasoned to be forwarded in quotable quantity. Present supplies are almost wholly Eastern Large Yellow and White, in the hands of local jobbers and millers. Business at present is largely of a retail character, necessarily so on account of the limited supplies. Values naturally tend against buyers, but at the same time no pronounced changes are warranted in quotable rates.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 40 @ —
Eastern Mixed	1 00 @1 02½

Rye.

Market is lightly stocked and is not favorable to buyers. More than is offering could be readily placed at current quotations.

Good to choice, new	1 00 @1 02½

Buckwheat.

Millers in this center are carrying very little of this cereal at present and are desirous of increasing stocks. Market is firm at figures below quoted, and there is a possibility that higher prices might be obtained.

Good to choice	2 00 @2 15
Silverskin	— @ —

Beans.

There is more activity in this line and better average figures are being realized throughout than for many weeks preceding. Particularly did the market show firmness for Lady Washingtons or Large Whites, which were in active request on Eastern account. Limas also inclined against buyers, with supplies of last crop reduced to very small proportions, both here and in the East. The coming crop of Limas is estimated at not to exceed 100,000 sacks, and only with favorable weather until harvest can this quantity be calculated on. In the market for colored beans, there was considerable business transacted in Bayos and Pinks, the former variety selling at a moderate advance on recent rates, while Pinks inclined in favor of buyers, prices for the two varieties being now closer together than for some time past. In Red beans there is very little doing, stocks being light, and few being wanted at current figures.

Pea, fair to good, 100 lbs	2 25 @2 50
Small White, good to choice	2 35 @2 50
Lady Washington	1 90 @2 05
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	1 90 @2 05
Bayos, good to choice	1 90 @2 05
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 10 @4 25
Black-eye Beans	3 25 @3 50
Horse Beans	—— @——
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Mail advices of recent date from New York City give the following report of the bean market, prices quoted being per 60-lb. bushel:

Prices have moved upward all along the line, and the market has been very firm throughout the week. As the season advances the strong features of the situation stand out more prominently. Not for several years past have we entered the new crop with so close a clearance of old beans. The immense quantity of stock taken by the Government has swept this country and Canada absoluteiy clean. Then the incoming crop is undoubtedly a good deal short. The acreage was less than last year and the severe drouth cut down the yield 25% to 50% in this State, while Michigan will have a lighter crop, and Canada is probably one-third short. Coupled with these unfavorable crop reports has been an unwillingness on the part of farmers to thresh out and market the stock, most of them having other fall crops, the harvesting of which is very pressing at this season of year. We have, therefore, had light supplies to meet the gradually expanding demand, and prices have responded quickly. After the purchase of about 400 barrels of Marrow early in the week for export at $1.75 the market soon advanced to $1.80, and then up to $1.85, at which some two carloads were sold. Medium have advanced to $1.47½@1.50, latter figure now generally asked. New Michigan Pea have climbed up rapidly to $1.45@1.47½, the top rate being obtained in a jobbing way for some bag stock; barrels would bring about 2½c more. Old State Pea are firm at $1.45, and while stock is sold up pretty close buyers are now running off onto new goods. Over 800,000 pounds, mostly Canadian stock, were taken by the Government this week. Red Kidney have had late sales at $1.82½@1 85; there is a strong holding. White Kidney very scarce. Yellow Eye jobbing at about $1.50. Turtle Soup slow but firmly held. Lima are closing 2½@5c higher; quotable $2.80@2.82½. Green and Scotch peas in very light receipt and values sustained.

Dried Peas.

There is a fair inquiry for both Green and Niles. Desirable qualities of either kind could be readily placed, and might command a little more than quoted rates. Monday's Panama steamer carried 2300 pounds for New York.

Green Peas, California	1 75 @2 00
Niles Peas	1 40 @1 50

Wool.

All free Fall wools are in good request, market for such being firm at the quotations. That there will be a cessation in the demand until all the wools of this class have been absorbed is not likely, as nothing aside from the asking of stiffer rates than manufacturers can see their way clear to pay is apt to retard the movement, and growers wisely show no disposition to exact more than the conditions warrant. Defective Fall is receiving no attention at present, and prospects are that little or nothing will be done in these wools until the free Fall is virtually cleaned up. Later on the scourer will in all probability take hold of the low-grade wools which are now dragging. This has been almost invariably the course of trade in previous seasons. Oregon wools are still on market in quotable quantity, but are not changing hands at the moment to any noteworthy extent. For a small lot of very choice Oregon Valley, known to dealers as combing wool, being exceedingly bright and free, of extra length staple and strong fibre, 20 cents was realized. The wool of this description is entirely too rare, however, to warrant regular quotations. A shipment of 57,200 pounds of wool went forward via steamer and Canadian Pacific Railway for Boston.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	14 @15
Middle Counties	8 @10
Northern, free	9½@11½
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

There is no evidence of any business of consequence being transacted in this line, either on local account or for shipment. Not enough trading has been yet reported in this season's product to give any well defined idea of values, only nominal quotations being possible at this date. The last Australian steamer took about 80,000 pounds, and 49,000 pounds went via Victoria, B. C. for Australia, understood to be mostly if not all new hops, whether sold or on consignment is not stated, but presumably the latter. This is usually a busy time in the hop trade, and with market so exceedingly quiet as at present, the outlook for the near future cannot be said to be encouraging.

Good to choice, 1899 crop	9 @12

The following review of the hop trade is given under recent date by a New York authority:

An unsettled feeling has prevailed all the week. Buyers have been inclined to operate cautiously, and up to the present writing fewer hops than usual have been moved. England, having a good crop, has been slow to interest herself in foreign stock, and until near the close about the only thing done from here was to forward samples representing as nearly as could be the most desirable grades of our hops. The peculiar competition for trade among some of the local dealers has resulted in the naming of all sorts of prices for the new crop, and this has had a deterring effect upon brewers, most of whom are awaiting the course of events with apparently no anxiety about results. These were the conditions up to the middle of the week, when advices came to hand of some export purchases at one or two points in the interior at 15c, and this at once increased the unsettled feeling, though imparting momentary firmness at least. Previous to these purchases 10c had been the prevailing price in the interior for average good lots, with occasional fine growths going a little higher. We revise quotations slightly, and suggest that all figures at the moment be considered somewhat nominal.

Hay and Straw.

The hay market was never more heavily crowded with offerings, and all that prevents a still greater quantity from coming forward is lack of track room and dock room here to accommodate more cars and barges. Although the rainy season is late setting in, a large amount of hay is still reported in the interior unprotected, and the owners of the same are anxious to get these holdings to market at the earliest date possible. The only sorts which are not in excessive supply are strictly choice Wheat and high-grade Oat hay, but even these kinds are going at low figures.

Wheat	6 50@ 9 25
Wheat and Oat	6 00@ 8 50
Oat	6 00@ 8 00
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	——@——
Compressed	7 00@ 9 00
Straw, ₱ bale	25@ 40

Millstuffs.

No changes of great moment have taken place in quotable values or the tone of the market since last review. Stocks of Bran and Middlings continue of light volume. Rolled Barley and Milled Corn are being steadily held.

Bran, ₱ ton	17 00@18 00
Middlings	18 00@20 00
Shorts, Oregon	17 00@18 50
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

Not much Mustard Seed is now coming forward, and it is believed the crop is now practically in. Over 10,000 sacks have arrived, against less than 2000 sacks for corresponding time last season, and 5500 sacks for same period two years ago. Stocks of Yellow are virtually closed out, but Trieste is still in fair supply, with little inquiry for this variety. A shipment of 117,000 lbs. Mustard Seed was made Monday to New York via Panama. In quotable values there are no changes to record of noteworthy importance.

	Per ctl.
Mustard, Trieste	3 15@3 25
Mustard, Yellow	3 75@4 00
Flax	2 00@2 50
	Per lb.
Canary	3½@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	—@—

Bags and Bagging.

There is nothing of consequence doing in Grain Bags, nor will there likely be until trading begins on next season's account. Wool Sacks are offering at unchanged rates. Bean Bags and Fruit Sacks are receiving some attention, values for both ruling steady.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¼
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@27
Gunnies	—@12½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	5¾@ 6¼

Hides, Pelts and Tallow.

There is a good inquiry for all products in this line, with only moderate quantities offering, and not likely to be any surplus very soon. Values are being well sustained.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11 @—	10 @—
Medium Steers, 48 to 56 lbs	10 @—	9 @—
Light Steers, under 48 lbs	9½@—	8½@—
Heavy Cow Hides, over 50 lbs	9½@—	8½@—
Light Cow Hides, under 50 lbs	9½@—	8½@—
Wet Salted Kip	9½@—	8½@—
Wet Salted Veal	9½@—	8½@—
Wet Salted Calf	10@—	9 @—
Dry Hides	16½@17	13 @—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13 @—
Dry Calf, under 4 lbs	17@—	13 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	90 @1 25	
Pelts, medium, per skin	60 @ 75	
Pelts, short wool, per skin	30 @ 50	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	
Deer Skins, thin winter	— @ 10	
Elk Hides	10 @ 12	
Tallow, good quality	4½@ 4¾	
Tallow, No. 2	3¾@ 4	
Goat Skins, perfect	30 @ 37½	
Goat Skins, damaged	10 @ 20	
Kid Skins	5 @ 10	

Honey.

Spot supplies are small, both of Comb and Extracted, particularly of water white or high-grade honey. Last quoted values remain in force, with market firm at figures current.

Extracted, White Liquid	7½@ 7¾
Extracted, Light Amber	6½@ 7
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

Market is quiet, which is due to absence of offerings and not to lack of demand. Prices tend against buyers.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

There are no changes to record in quotable values for Beef, the market ruling quiet and is not particularly firm in tone. Mutton has

been commanding about same figures as preceding week, with no special excess of offerings. Hogs were not in heavy receipt and prices ruled steady, but were too high for packers.

Beef, 1st quality, dressed, net ℔ lb	7¼	@	7½
Beef, 2d quality	6½	@	7
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wethers	7	@	—
Hogs, hard grain fed, medium	5⅝	@	5¾
Hogs, small, fat	5⅝	@	5¾
Hogs, large hard	5½	@	5¾
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ℔ lb	7	@	9
Veal, large, ℔ lb	8	@	—
Lamb, spring, ℔ lb	8	@	8½

Poultry.

Market for most kinds iacked firmness, Broilers in fine condition and extra large and fat Hens being about the only noteworthy exceptions. With weather unfavorable most of the week for a heavy demand, and with Eastern pouitry in fairiy iiberai receipt, it would have been somewhat phenomenai if other than a duli market bad heen experienced.

Turkeys, young, ℔ lb	15	@	16
Turkeys, iive bens, ℔ lb	14	@	16
Turkeys, iive gobbiers	14	@	16
Hens, Cal., ℔ doz	4 00	@	5 00
Roosters, old	4 00	@	4 50
Roosters, young, (full-grown)	4 00	@	5 50
Fryers	3 50	@	4 00
Broilers, large	3 25	@	3 50
Broilers, small	3 00	@	3 25
Ducks, ℔ doz	4 00	@	6 00
Geese, ℔ pair	1 75	@	2 00
Goslings, ℔ pair	1 75	@	2 00
Pigeons, Old, ℔ doz	1 25	@	1 50
Pigeons, Young	1 50	@	1 75

Butter.

Owing to a further decrease in receipts of choice to fancy fresh butter, both creamery and dairy, prices for these descriptions have been again advanced. For lower grades of fresh butter the market is about as favorable to buyers as iast noted, aithough stocks of this class of butter are not heavy. Trade is now largely in packed stock, mainiy in keg butter, whicb is in good supply, botb locai make and Eastern, with prices for tbe same quotabiy unchanged.

Creamery extras, ℔ lb	28	@	—
Creamery firsts	27	@	—
Creamery seconds	26	@	—
Dairy select	25	@	26
Dairy seconds	20	@	23
Dairy, soft and weedy	—	@	—
Mixed store	14	@	16
Creamery in tubs	18	@	20
Pickled Roii	18	@	20
Firkin, Cai., choice to select	18	@	20
Firkin, common to fair	15	@	16

Cheese.

Smaii quantities of seiect new, just a few weeks from the press, are commanding comparativeiy stiff figures, and more in some instances than is quoted, hut with this exception the market for domestic product does not display any particuiar firmness. Heid cheese is in very fair suppiy, and the demand for the same is not very hrisk at full current rates.

California fancy fiat, new	11	@	—
California, good tc choice	10	@	10½
Caiifornia, fair to good	9	@	9½
California Cheddar	—	@	—
California, "Young Americas"	10	@	12

Eggs.

As is generaiiy the case at this time of year, strictly fresb eggs, in every way desirable as to size, color, cleanness, etc., are in very limited receipt and in a smaii way are bringing stiff figures, some sales being made 1@2c above extreme quotations. Wbile above sort is scarce, tbere is an excessive supply of coid storage stock, botb domestic and Eastern, with prices for same quite favorable to consumers.

California, select, large white and fresh	38	@	40
California, seiect, irregular color & size	30	@	37½
California, good to choice store	23	@	28
Eastern, as to section and grading	20	@	26
Eastern, coid storage	—	@	—

Vegetables.

Tbe display is getting narrowed down as tbe winter season approaches. Green Corn is now practicaiiy out. Peas and String Beans make a very siim showing. Tomatoes are stiii pientiful and are going at iow figures. Onion market was weak for ordinary offerings, and was quotably lower; strictly select were in light stock and steadiiy heid.

Asparagus, fancy, ℔ box	—	@	—
Asparagus, No. 1, ℔ box	—	@	—
Asparagus, common to fair, ℔ box	—	@	—
Beans, Wax, ℔ lb	—	@	—
Beans, String, ℔ lb	2	@	3
Beans, Lima, ℔ lb	3	@	3½
Cabbage, choice garden, ℔ 100	50	@	60
Cauliflower, ℔ doz	50	@	—
Corn, Alameda, ℔ crate	1 00	@	1 25
Corn, Green, ℔ sack	—	@	—
Corn, Berkeley, ℔ crate	—	@	—
Cucumbers, Alameda, ℔ iarge box	35	@	60
Cucumbers, ℔ smaii box	—	@	—
Egg Plant, ℔ box	35	@	60
Garlic, new, ℔ lb	2	@	3
Mushrooms, Buttons, ℔ lb	—	@	—
Mushrooms, wiid, ℔ box	—	@	—
Okra, Green, ℔ box	40	@	60
Onions, Yellow, good to choice, cental	50	@	65
Onions, New Red, ℔ cental	—	@	—
Peas, Sweet, Garden, ℔ lb	3½	@	4
Peas, common, ℔ lb	—	@	—
Peppers, Green Chiie, ℔ box	35	@	60
Peppers, Bell, ℔ large box	50	@	75
Pickles, small, ℔ centai	1 25	@	1 50
Pickles, No. 2, ℔ centai	50	@	75
Rhubarb, ℔ box	—	@	—
Squash, Bay, ℔ large box	—	@	—
Squash, Marrowfat, ℔ ton	5 00	@	8 00
Squash, Summer, ℔ box	35	@	50
Tomatoes, River, ℔ box	15	@	25
Tomatoes, Bay, ℔ box	20	@	35

Potatoes.

Trading in the potato market was mostiy in Burbank Seediings, and for this variety the market was, ali tbings considered, in very fair shape for the seiiing interest. Oregon Burbanks are arriving in smaii quantity, hut are mostly too green to he desirabie, it heing rather eariy for choice stock from above section. In about a month arrivals from the North wiii be iarger and the quaiity better. Sweets were in ampie supply for the demand and market inclined in favor of buyers.

Burbanks, River, ℔ cental	65	@	80
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	—	@	—
River Reds	60	@	75
Early Rose	—	@	—
Garnet Chile	60	@	75
Burbanks, Salinas, ℔ cental	95	@	1 10
Sweet River, ℔ centai	1 00	@	1 25
Sweet Merced	1 25	@	1 40

The Fruit Market.

Fresh Fruits.

The display of fresh fruits of Summer varieties, both of tree and vine, is on the decrease, as is to be expected at tbis time of year. Not only is the quantity lighter, but in the matter of variety there is a decided falling off, as compared with the offerings of a few weeks ago. In former seasons, however, it has been the exception where the general display at corresponding date was as good in ali respects as it is at present, the weather thus far this season having been unusuaiiy favorabie for late fruit. Appies are beginning to receive more attention as the supply of other tree fruit is on the wane. Choice Gravenstein and Spitzenberg take the iead at present in point of favor with consumers, and command the highest prices, being quotabie to $1.25 wholesaie for four-tier boxes. Sound Gravensteins, bowever, are not now readily found. As to second place on the list, there are numerous varieties among which the honors are about equaiiy divided. In this connection may be named Bellflowers, Baldwins, Rhode Isiand Greenings, Smitb's Cider, Jonathans, and various Pippins, seiling in a generai way within range of 75 cents to $1.00 per box for good to choice. Inferior apples range down to 25 cents per box, but the quality is decidedly poor at this figure. Peaches are now arriving so sparingly that business in this fruit is mostiy of a retail character and in the main at rather stiff prices. Pears offering at present are principaiiy iate varieties, Winter Nelis being most conspicuous, but it is too early for these to he ripe enough to be paiatabie, and they are consequently not in as active request or saiabie to as good advantage as they will be a month or two hence. Grapes of table varieties are in moderate suppiy and in fair request, seiiing to fully as good advantage as previous week. Wine Grapes continue in light stock and command good prices. Melon market was moderately firm most of the week, but witb cooler weather at the close is iess active and easier. In tbe berry line there were few other than Strawberries of the iarge varieties, and these were mostly under choice, going at low prices.

Apricots, good to choice Royai, ℔ ton	—	@	—
Apricots, Royal, ℔ box	—	@	—
Apricots, Pringle, ℔ box	—	@	—
Apples, fancy, ℔ 50-lb. box	—	@	—
Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ℔ 50-lb. box	75	@	90
Apples, Green, common to fair, ℔ 50-lb. box	25	@	50
Blackberries, ℔ chest	4 00	@	6 00
Cantaloupes, ℔ crate	75	@	1 50
Cantaloupes, Nutmeg, ℔ crate	40	@	75
Cherries, Black, ℔ box	—	@	—
Cherries, Red, ℔ box	—	@	—
Cherries, Royal Anne, ℔ box	—	@	—
Cherries, White, ℔ box	—	@	—
Crabappies, ℔ small box	—	@	—
Currants, ℔ chest	—	@	—
Figs, Black, 1-tier box	35	@	60
Figs, White, ℔ box	30	@	60
Gooseberries, ℔ lb	—	@	—
Gooseberries, ℔ 10-lb box	—	@	—
Grapes, Black, ℔ crate	30	@	65
Grapes, Fontainebleau, ℔ crate	—	@	—
Grapes, Muscat, ℔ crate	35	@	65
Grapes, Tokay, ℔ box, 30@50c; ℔ crate	40	@	60
Grapes, Seedless, ℔ box, —@—; ℔ crate	—	@	—
Grapes, Isabella, @ crate	75	@	1 00
Grapes, Zinfandel, ℔ ton	22 00	@	25 00
Grapes, Mission, ℔ ton	20 00	@	23 00
Grapes, White, ℔ ton	16 00	@	20 00
Logan Berries, ℔ chest	8 00	@	10 00
Nectarines, Red, ℔ box	—	@	—
Nectarines, White, ℔ box	—	@	—
Peaches, fancy wrapped, ℔ box	1 00	@	1 25
Peaches, ℔ box	60	@	1 00
Pears, Bartlett, No. 1 to choice, ℔ ton	—	@	—
Peaches, Clingstone, ℔ ton	—	@	—
Peaches, Freestone, ℔ ton	—	@	—
Pears, Bartlett, ℔ 40-lb. box, wrapped	1 50	@	2 00
Pears, common, ℔ basket	—	@	—
Pears, late varieties, ℔ box	50	@	1 25
Plums, large, ℔ ton	—	@	—
Plums, large, ℔ crate	—	@	—
Plums, ℔ box	50	@	1 00
Plums, Cherry, ℔ drawer	—	@	—
Pomegranates, ℔ box	40	@	75
Quinces, ℔ box	50	@	75
Raspberries, ℔ crate	—	@	—
Raspberries, ℔ chest	4 00	@	6 00
Strawberries, Longworth, ℔ chest	9 00	@	10 00
Strawberries, Large, ℔ cbest	2 00	@	4 00
Watermeions, ℔ 100	6 00	@	20 00
Whortleberries, ℔ lb	4	@	8

Dried Fruits.

The market for most kinds of cured and evaporated fruits shows increased firmness, the demand for various sorts continuing active from ali quarters, domestic and foreign, where California dried fruit has been ever introduced to any appreciabie extent. Peaches unpeeled continue to occupy a very prominent position, being in iarger supply than any other variety aside from Prunes, and are in good request at higber rates than current at any previous date this season, an advance of fuily haif a cent being warranted in quotable values. Peeled Peaches are scarce, dealers bidding 15c for select. Apricots are mostiy out of first hands; market is strong at the advance below quoted, with prospects of going still bigher. In evaporated Apples there are no changes to record in quotabie rates, but market is firm at current figures, with inquiry sufficient to absorb ali immediate offerings in prime to choice condition. Pitted Plums are in active request, particulariy White and Red varieties, with market strong at a quotabie advance of 1c per pound. Pears continue to be offered very sparingly, from both first and second hands, and choice to select are saiable to advantage. Figs are rapidly moving into consuming channels, witb market stiff at advanced figures, particulariy so for choice Wbite. The market for Prunes, wbile not so active as for most other fruits, is also showing improvement, especiaiiy for the small sizes, which are commanding a premium of fuliy a quarter of a cent, according to the usuai scaling of vaiues. The movement in Prunes at present is iargely on foreign account, 40–60's being mainiy in request for this purpose. Eastern buyers are expected to give this fruit increased attention in tbe near future.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12½
Apricots, Royal, fancy	12½	@	13½
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7	@	7½
Apples, 50-lb. boxes, rings, pressed, good to choice	6½	@	7
Figs, White, fancy pressed	8¼	@	9½
Peaches, unpeeled, good to choice	5¼	@	6½
Peaches, unpeeled, fancy	7½	@	8½
Peacbes, peeied, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, haived, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½	@	8¼
Piums, Black, pitted	6	@	6½
Plums, White and Red, pitted	8	@	8½
Prunes, in sacks, 40—50's	4½	@	4¾
50—60's	4	@	4¼
60—70's	3¾	@	4
70—80's	3¼	@	3½
80—90's	2¾	@	3
90—100's	2½	@	—
110—130's	2	@	—
Prunes in boxes, ¼c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Ciaras and equal	3	@	—
4 sizes San Joaquin and Northern	2½	@	2¾
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4½	@	5½
Apples, quartered	4½	@	5½
Figs, Black	6	@	6½
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Late advices by mail from New York City furnish the foiiowing review of tbe dried fruit market:

The demand for evaporated apples has shown slight improvement this week, and while prices show no material change, full figures have been more easily obtained than previously. Fancy are salable at 8c or higher, and choice range from 7¼ @7¾c, with strictly prime not easily obtained under 7c, and poorer grades lower as quoted. Sundried apples in quite free suppiy and moving rather slowly, with outside quotations somewhat extreme, more particularly for quarters. Not much doing in cbops or waste and market remains nominally the same. Small fruits not very plenty, but moving less freeiy and outside quotations more extreme. California fruit has met a very good outiet, witb firm tone, especially for peaches, and smaii jobbing sales are exceeding figures quoted.

Apricots, Cai. Moorpark, 1899, per lb	14	@	16
Apricots, Cal. Royal, 1899, per lb	12	@	13
Peaches, Cal., 1899, unpeeled, in boxs. lb	7¾	@	9
Peaches, Cal., 1899, unpeeied, in bags, lb	8	@	8½
Prunes, Cal., 1898, per lb	3	@	8

Raisins.

Tbe Raisin Growers' Association has issued tbe following notice, dated Fresno, Cal., October 7, 1899: "Many packers having soid the 75% of their aliotment of 'Standard' raisins we find it necessary to fix prices upon the remaining 25%, and to keep faith with the trade in our intimation that prices would be raised at ieast once during the season, we now announce an advance in our price for three-crown standard ioose Muscatels of ¼c per pound, and for four-crown loose Muscateis of ½c per pound. Packers are authorized to seli the remaining 25% of their aliotment at these prices; other grades and sizes to remain as heretofore until further notice." Prices on Valencias were aiso established as below noted. The market presents a very firm tone, with outward movement of quite liberal volume.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ℔ box	$3 00	@	—
Do do 5-crown, ℔ box	2 50	@	—
Do do 4-crown, ℔ box	2 00	@	—
Do do 3 crown, ℔ box	1 60	@	—
Do do 2-crown, ℔ box	1 50	@	—
Valencia layers, ℔ 20-lb box	80	@	1 00
(Usual advance for fractions.)			
Loose Muscatei, 4-crown, ℔ lb	6½	@	—
Loose Muscatei, 3-crown	6	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, ungraded	—	@	—
(Above prices for ioose raisins are for 50-lb boxes.)			
Dried Grapes	—	@	—

Thompson Seedless.—Bleached fancy, ℔ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ℔ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ℔ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ℔ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

New crop Oranges are expected to put in an appearance the coming month, but it is not iikeiy that ripe fruit of this ciass will be in evidence much before tbe holidays. The crop will be large and indications are tbat the quaiity will average fine. The Lemon market remains steady. Demand has been good most of the past week, but supplies were ampie for tbe requirements. Limes were more pientiful and cheaper.

Lemons—Cal., select, ℔ box	3 50	@	4 00
Cai., good to choice	2 50	@	3 00
Cal., common to good	2 00	@	2 50
Limes—Mexican, ℔ box	6 50	@	7 00
Cai., small box	—	@	—

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Nuts.

The Aimond market favors seiiers, demand being good and offerings light, Although the Walnut crop has been practicaiiy disposed of for a fortnight or more, few deliveries have yet been made. Values remain as last quoted. Peanut market is lightiy stocked and favors seiiers.

California Aimonds, shelled	—	@	—
California Almonds, paper shell, ℔ lb	12	@	14
California Almonds, soft shell	10	@	11
California Almonds, hard shell	6	@	8
Wainuts White, paper shell	10	@	11
Walnuts White, soft shell	9½	@	10
Wainuts White, Cal., standard	8½	@	9
Cbestnuts, Cal. Italian	15	@	18
Peanuts, Cai., fair to prime	5½	@	6½
Peanuts, Eastern hand-picked	6½	@	7½
Pine Nuts	5	@	8

Wine.

Tbere is no particuiar cbange to note, although it is reported there has been some recent cutting of rates among wholesaie dealers on Eastern business. There is certainly nothing to warrant the same, as with the light output of wine from this year's grapes, and tbe high prices wine grapes are commanding, it seems assured that wine vaiues must advance. Quotations are continued at former range, 15 and 20 cents per gaiion for ciaret, as to quality, quantity and otber conditions. The Panama steamer saiiing Monday took 67,359 gaiions, mainiy for New York, and the steamer sailing for Victoria, B. C., same day, carried 23,300 gaiions, principaiiy for Eastern points.

Prices quoted in this review are intended, uniess otherwise specified, to represent wbolesale vaiues, obtainable on offerings from the producer, and on round iots deiivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of tbe PACIFIC RURAL PRESS to have its quotations represent as nearly as possible tbe existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higber figures are realized than are justified as quotations. On the otber hand, produce of decidedly inferior quaiity is apt to be soid at iess than iowest figures.

Produce Receipts.

Receipts and exports of ieading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as foiiows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	72,945	1,502,587	1,229,991
Wheat, ctls	21,127	1,067,241	907,306
Barley, ctls	99,663	2,249,732	455,028
Oats, ctls	30,315	249,077	201,790
Corn ctls	600	28 480	42,255
Rye, ctls	740	56,997	9,005
Beans, sks	15,611	62,876	89,571
Potatoes, sks	19,195	299,123	296,274
Onions, sks	4,858	70,047	68,206
Hay, tons	5,937	61,481	58,807
Wool, bales	1,474	20,199	18,734
Hops, bales	671	3,327	3,844

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	68,012	849,591	865,600
Wbeat, ctls	10,187	819,207	504,843
Barley, ctls	74,582	1,683,507	70,719
Oats, ctls	316	12,704	7,122
Corn, ctls	491	4,526	4,716
Beans, sks	317	5,293	42,911
Hay, bales	5,892	28,805	18,475
Wool, lbs	....	458.361	587,901
Hops, lbs	81,199	273,858	502,270
Honey, cases	81	2,110	2,698
Potatoes, pkgs	224	14,292	13,652

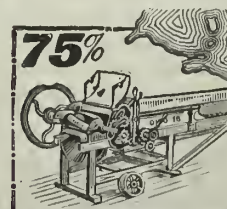
California Dried Fruit at New York.

NEW YORK, Oct. 11.—California dried fruits; Market quiet and steady. Evaporated apples, common, 7½c; prime wire tray, 7½ 8½c: choice 8¾@9c; fancy, 9@9¼c.

Prunes, 3½@8c.

Apricots, Royal, 12@13½c; Moorpark, 14@16c.

Peaches unpeeled, 7¾@9c; peeled. —@—c

75%

That represents the labor saved in feeding a machine with traveling feed table over the old style plain tables.
THIS MACHINE AND ALL
OHIO
FEED AND ENSILAGE CUTTERS AND FODDER SHREDDERS
are the strongest most durable, largest capacity machines made. This new Traveling Feed Table removes every element of danger from feeding. No danger to fingers, hands and arms. Capacity—just as much as you can get to the machine. Will elevate the feed to any height. Free catalogue and "A BOOK ON SILAGE" sent to all inquirers.
THE SILVER MFG CO.
Salem, Ohio.
Hooker & Co., Gen'l Agents Pacific Coast, 16-18 DRUMM ST., San Francisco, Cal.

NEW 20TH CENTURY CREAM SEPARATORS



Sept. 1st marked the introduction of the Improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators and these newest "Alpha" disc machines are simply unapproachable by anything else in the shape of a cream separator. Overwhelming as has been the conceded superiority of the De Laval machines heretofore their standard is now raised still higher and they are more than ever placed *in a class by themselves* as regards all possible competition. Send for new catalogue.

THE DE LAVAL SEPARATOR CO.

RANDOLPH & CANAL STS., CHICAGO. | 74 CORTLANDT STREET NEW YORK.

Date Trees by Mail.

The United States mails are sometimes used for rather curious purposes. A number of years ago several wagons drove up to the postoffice at Washington, D. C., and deposited a number of large tubs containing handsome palms. Having delivered themselves of their freight, the wagons drove off. The postoffice people went out to see what the performance meant and found, to their surprise, that these palms were to be sent through the mails. The local superintendent at first said that the office would not send them. It was preposterous, he maintained, to mail such things. Each tub, full of moist earth and a good-sized palm, was as much as two men could handle, and on account of the foliage they could not be packed to any advantage. Nevertheless there were the tags on the tubs containing the "frank" of the Department of Agriculture and the proper addresses—Las Cruces, New Mex.; Phœnix and Yuma, Ariz.; Pomona, Tulare, etc., Cal.—and the only thing for the Washington postoffice officials to do was to mail them. So this was done, although it necessitated special arrangements to care for and water the palms. Thus practically commenced date growing in the United States.

Of these trees about forty are now living and thriving, fifteen of them having blossomed. Only seven of these, however, are pistillate or fruit-bearing trees. Since this first attempt at American date culture the Agricultural Department has followed up the question, and Secretary Wilson, during the past year, has had an expert in Algeria, Mr. Swingle, making a thorough study of this subject and sending home plants. The Secretary proposes to spend perhaps $10,000 during the next two years of the money allotted him by Congress for the introduction of useful foreign plants. The dates now being secured in Algeria and Morocco are of the finest kinds and are shipped in tubs, the same as was done in the original importation. Secretary Wilson states it as his belief that another American industry will result from this experiment, as he believes that dates will thrive as well in Arizona as in Arabia.

English Hops Suffering.

Since the middle of last week there has been a serious attack of vermin in many of the Kent and Sussex plantations, the lice being found in the cones, which have as a result become diseased. In addition to this the great heat of last week, and the scorching sun following upon heavy fogs, caused the hops in many grounds to go off with red mould. The consequences of so late a visitation of aphis blight will, we hear, be serious, and many acres will also become so deteriorated that they will not be worth picking. How far this will reduce the estimate of the crop it is as yet too early to say, but the extent must be considerable. It is satisfactory to be able to report that many plantations are still entirely free from disease of any sort, and that the hops are keeping well; also that the crop is still coming down far above the average almost everywhere. The cooler temperature now prevailing is all in favor of the hops keeping, but of course nothing can be done to help those grounds that are attacked by vermin; the hops will go black at the core and if picked will not be worth much.—M. H. Durst, in the Kentish Observer of Sept. 13.

Duty on Peanuts Too Low.

According to the *Chronicle* a circular letter is being framed by several of the largest wholesale nut merchants in San Francisco, to be circulated among the sellers and growers in California, Virginia and other peanut-raising States, asking signatures to a petition to Congress to raise the import tariff on peanuts from the present ½-cent duty to at least 3 cents. During the past few months heavy consignments of peanuts have been imported from Japan, which could be offered in the San Francisco market at fully 1 cent per pound below the minimum figure necessary to make the raising of the domestic product a paying investment.

Owing to the shortness of the Eastern crop last season, it seemed a certainty that California would be called on to supply the demand of the country, and speculators cleaned up the State's crop at good prices. They would doubtless have disposed of their purchases at good profits had not the importation of the Japanese stock turned buyers' attention to the latter offerings. Owing to their cheapness and fair quality sales were liberal and the domestic nuts dragged, so that heavy accumulations are still on hand.

One of the largest dealers in San Francisco recently said that the petition will doubtless be signed by hundreds of interested parties, as the duty is far too low in comparison with the rate fixed for other varieties of nuts.

Preserves

—fruits, jellies, pickles or catsup are more easily, more quickly, more healthfully sealed with Refined Paraffine Wax than by any other method. Dozens of other uses will be found for

Refined Paraffine Wax

in every household. It is clean, tasteless and odorless—air, water and acid proof. Get a pound cake of it with a list of its many uses from your druggist or grocer. Sold everywhere. Made by STANDARD OIL CO.



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BEST LIFT AND FORCE IN THE MARKET.

No Pipes to Disconnect to Get at All Working Parts.

The "ALTA" is the most serviceable Deep Well Pump. Working parts taken up from any depth without disturbing pipe body.

Address

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CHEAP HOMES.

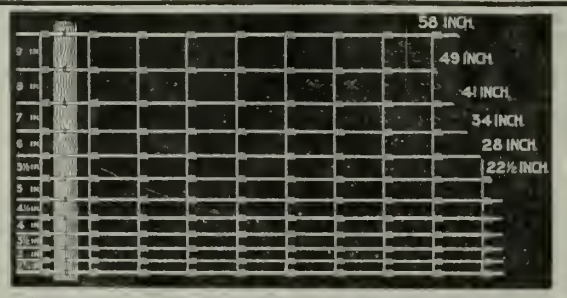
We Offer for Sale 5000 Acres of Land in Mendocino County Near the Coast.

PRICE $8.00 AND UP, ON LONG TIME AND SMALL PAYMENTS.

Land especially suited for raising Winter Apples. No irrigation required.

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No. 43 Crocker Building, SAN FRANCISCO, CAL.



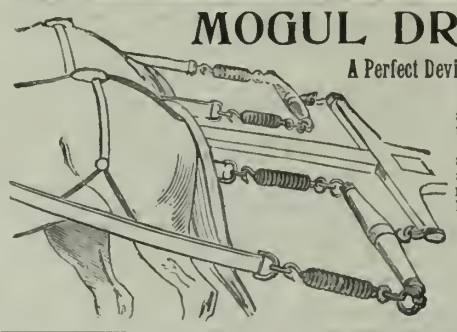
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is the fence every fence user is after. For perfect security in the way of a fence, at lowest cost, for a fence that will outlast your lifetime, secure the

AMERICAN FIELD AND HOG FENCE.

Large spring steel wires, heavily galvanized, practically indestructible. Sold by our agents everywhere. If no agent in your town write to

AMERICAN STEEL & WIRE CO., SAN FRANCISCO, CAL.



MOGUL DRAUGHT SPRING.

A Perfect Device for Making Easy the Drawing of Heavy Loads.

Increases the power of the horse and avoids all straining and injuries to the shoulders. Attached to whiffletrees or collars.

Used in the artillery service of the U. S. A. and Europe and on the fire engines in New York and other cities. Also by brewers, coal dealers, mines, etc. Indispensable to anyone doing heavy teaming.

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WILSON MFG. CO., 147-149 Cedar Street, - - NEW YORK.

AGENTS WANTED.

NITRATE IS OF PRIME VALUE IN THE GROWTH OF

NITRATE OF SODA AS A FERTILIZER.

Citrus Fruits, Deciduous Fruits, Wheat, Cereals, Sugar Beets, Garden Vegetables, Etc., Etc.

EXPERT OPINION—Dr. Bernard Dyer (Consulting Chemist of Various British Agricultural Societies), writes:

"Nitrate of Soda is not a mere stimulant, as was erroneously supposed in earlier days. It is a true and very profitable plant food, and when it is properly used it neither exhausts nor injures the soil, but improves both its condition and its fertility."

For Sale by BALFOUR, GUTHRIE & CO., 316 California St., San Francisco.

Write to them for pamphlets on Nitrate of Soda as a Fertilizer.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING SEPTEMBER 26, 1899.

633,638.—TIRE CEMENT—Burr & Hendrickson, San Fernando, Cal.
633,804. BURIAL VAULT—J. N. Chamberlain, Dallas, Or.
633,685.—TIRE—A. W. Conatser, Compton, Cal.
633,753.—BICYCLE GEAR—W. W. Cowan, Los Angeles, Cal.
633,813.—ROTARY ENGINE—T. Croston, Hoquiam, Wash.
633,814.—BICYCLE—G. Davies, Seattle, Wash.
633,820.—REFRIGERATOR CAR—Earl & Miller, Oakland, Cal.
633,691.—THAWING HOOD—J. C. Gawey, Seattle, Wash.
633,831.—LOCOMOTIVE—A. Given, Ellensburg, Wash.
633,692.—ROCK DRILL—W. Gleeson, S. F.
633,646.—BARK CUTTING MACHINE—J. C. Hagerty, Santa Cruz, Cal.
633,761.—OIL BURNER—A. Johnson, S. F.
633,962.—WATER WHEEL CASING—W. J. Krase, S. F.
633,860.—LAND SCRAPER—G. M. Light, Pomeroy, Wash.
633,765.—CHECK HOOK—J. A. Lowe, San Jose, Cal.
633,659.—SAD IRON—Pettijohn & Glenn, Montesano, Wash.
633,732.—PUMP—G. W. Price, S. F.
633,660.—RULING PEN—A. G. Raycraft, Carson, Nev.
633,966.—COIN CONTROLLED APPARATUS—B. W. Scott, San Jose, Cal.
633,705.—SAIL RIG FOR SHIPS—A. V. Smith, S. F.
633,666.—MOTOR CARRIAGE—A. C. Stewart, Santa Paula, Cal.
633,926.—RAIL JOINT—A. Tremhley, Arcadia, Or.
633,742.—CLOTHES HOOK—G. W. Turner, S. F.
633,671.—TOY TORPEDO—Z. Valdez, Los Angeles, Cal.
633,978.—HORSE POWER—G. D. Wilson, Pomeroy, Wash.
31,556.—DESIGN DRIP PAN—J. Mugford, Puyallup, Wash.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained hy Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

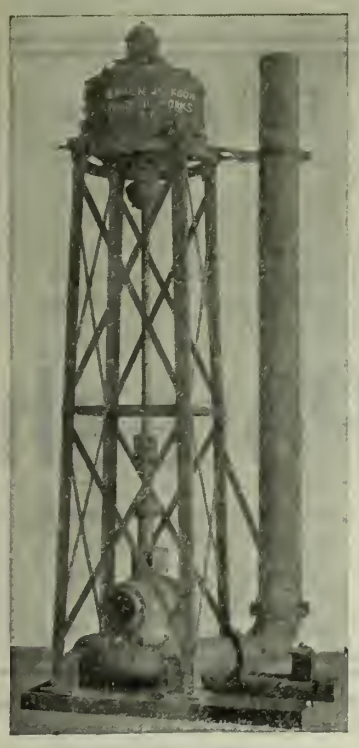
Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

BARK CUTTING AND REDUCING MACHINE.—J. C. Hagerty, Santa Cruz, Cal. No. 633,646. Dated Sept. 28, 1899. The object of this invention is to provide an improved machine for cutting, shaving or reducing bark to a fine condition in preparation for its further use for the purpose of tanning or other uses to which it may be put. The invention consists of an enclosing casing and a disk revolvable therein. Obliquely disposed collars are fixed to the disk and an obliquely disposed feed chute opens through the side of the casing. A correspondingly concaved shear plate has its edge beveled to coincide with the inclination of the chute and by this the cutting is effected. Pins or lugs are fixed to the disk and to the interior of the case so that they pass each other; they loosen up any bark which is inclined to lodge within the case.

OIL BURNER.—August Johnson, San Francisco, Cal., assignor to the Oil Fuel Saving Company, of same place. No. 633,761. Dated Sept. 28, 1899. The object of this invention is to provide an apparatus for the combustion of oil to be used in furnaces. It consists of a combination of a mixing and burner tubes with peculiarly fashioned discharge nozzles, and means for regulating the supply of air and oil thereto. The exterior tube has the front flattened to form a horizontally divergent opening and a segmental interior tube has its upper portion essentially coincident with the curvature of the corresponding part of the outer tube. It has a flat bottom whereby air passages of different areas may be formed in the upper and lower part of the outer tube. A compress flattened nozzle is formed at the front of the inner tube and discharges centrally through the opening of the outer tube and an upwardly inclined neck is formed so that the air discharged from the lower part of the outer tube is deflected upwardly to intersect and mingle with the vapor escaping from the inner tube. An oil supply pipe leads into the inner tube, and there is also an inclined divergent deflector upon which the oil is received. Through a suitable inlet air is supplied to both the inner and outer tubes, and, hy means of a suitable damper, the passages may be connected or separated from each other at will to regulate the supply of air into the two parts of the burner.

SAIL RIG FOR SHIPS.—A. V. Smith, San Francisco, Cal. No. 633,705. Dated Sept. 28, 1899. The object of this invention is an improved arrangement of sails by which the pressure of the wind is better applied to the propulsion of the vessel and the pressure on certain portions of the sails may he relieved when tacking ship or going about in sailing on the wind. The sails can also be handled with much less force of men than in the ordinary arrangement. It consists of one or more rectangular frames with netting stretched thereon, these frames heing turnable upon a vertically arranged spar in line with and at the rear of the mast. The sails which are carried upon these frames are an upper one having its upper horizontal edge seized or secured to the framework and the other edges convergent to a point below, and other triangular sails having their outer vertical edges similarly secured to outer portions of the framework, and they are so shaped that when the angular points are drawn toward the center they combine with the upper sail to form a complete sail. By means of suitable sheets the point of either of these sails can he relieved when the vessel is to go about, and at the proper time the lower point of the larger first-named sail can be allowed to move back upon a diagonal stay which extends between the masts, a ring or traveler being fixed to the lower point of this sail to allow it to thus move. Counterhalance weights are also used in conjunction with the sheets and may be carried helow the deck, the lines therefrom passing over suitable direction pulleys.



Byron Jackson Machine Works,

625 Sixth Street, SAN FRANCISCO, CAL.

We Build the Best Irrigating Machinery in the World.

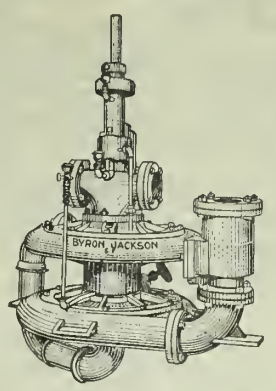
PUMPS

designed and built for direct connecting to Electric Motors, under any conditions.

PUMP and MOTOR

installed in steel frames for use where pump is submerged.

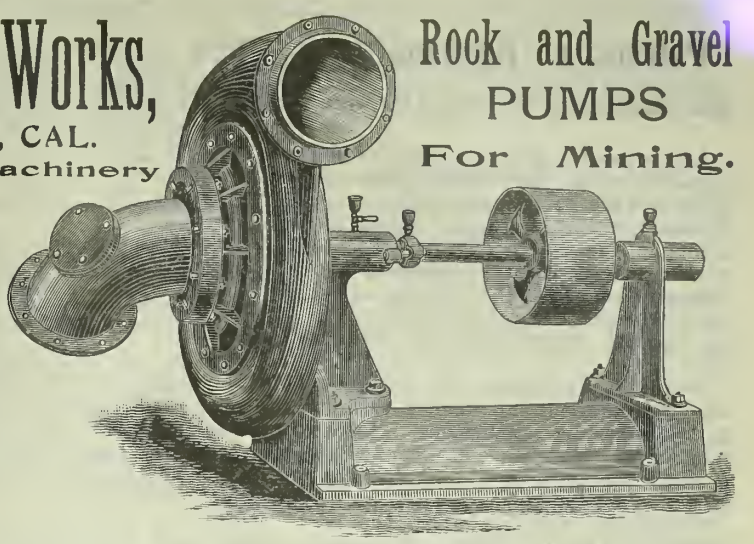
Our Latest Improved Pumps



Compound Vertical Pump for Deep Wells or Pits.

are automatically balanced and can be compounded to lift water to any height up to 500 feet and can be driven by steam or gas engine.

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Rock and Gravel PUMPS For Mining.

OUR Horizontal Pumps and Compound Engines are made for any capacity and are the best plants known to modern engineering for large Irrigation or Reclamation Systems.

We make specifications and estimates under any conditions for Machinery to raise water.

A New Armor Plate.

Some experiments have been carried out at the Government School of Gunnery, Shoeburyness, England, with a new kind of armor plate, 6 inches of which is of ordinary steel and 3 inches of a special composition, the nature of which has not been made public. These plates have been fired at with 350 pound projectiles at a distance of 200 yards. When black powder was used, the plate was practically uninjured after several shots, and in some cases the projectile was reduced to dust by the force of the impact. With cordite it was found that the plate could be penetrated for about 3 inches, or even pierced; but the severest tests failed to cause the plate to crack, a circumstance that will make it useful in naval warfare, for a hole beneath the waterline can always be plugged with matting. Two shots were then fired at the plate simultaneously, hitting the plate 1 foot apart, but still the composition was not fractured. The plate was then fired at obliquely, when it was found that the special facing split from the steel backing, although the welding was previously invisible to the eye.—American Manufacturer.

Cocoanut Oil Cake.

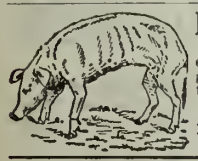
THE BEST FEED FOR STOCK, CHICKENS AND PIGS.

For sale in lots to suit by

EL DORADO LINSEED OIL WORKS CO.

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SNODDY'S HOG CHOLERA SPECIFIC *Cures and Prevents*



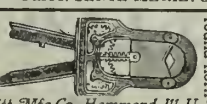
HOG CHOLERA.

Never fails when used as directed. Every box of the genuine has the sick hog on the label. Agents wanted.

The Snoddy Medicine Co.,

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DR. LEAVITT'S Double Power DEHORNING CLIPPER.—V-blade.



It Cuts all round horn.

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Horses and Cattle.

HOLSTEINS—Winners over Jerseys of *every* butter contest at State Fairs for five years. This year every butter prize awarded went to my herd except 2nd prize for 2-yr.-olds. Stock for sale. F. H. Burke, 626 Market St., S. F.

JERSEYS, HOLSTEINS & DURHAMS. Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. **William Niles & Co.,** Los Angeles, Cal. Breeders and Exporters. Established 1876.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times. either singly or in carload lots. **Oakwood Park Stock Farm, Danville, Cal.**

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders. for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

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WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it

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BERKSHIRE, POLAND-CHINA & DUROC HOGS. Choice; Thoroughbreds. **Wm. Niles & Co.,** Los Angeles, Cal. Established in 1876.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

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We keep all the leading varieties. Have 60 breeding yards. Why not improve your stock. Man'f's of the Improved Pacific Incubator. Absolutely self-regulating, hot water. Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.* PACIFIC INCUBATOR Co., 1317 Castro St., Oakland, Cal.



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UNDER THE AUSPICES OF THE AMERICAN HEREFORD CATTLE BREEDERS ASSOCIATION.

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300 HEAD,

REPRESENTING ALL THE PROMINENT STRAINS OF THE BREED, WILL COMPETE FOR

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IN PRIZES.



300 HEAD,

REPRESENTATIVES OF 60 DIFFERENT HERDS FROM ALL PARTS OF THE :::: COUNTRY, WILL BE

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BY AUCTION.

Sale Catalogues, Premium Lists, Entry Blanks, etc , now ready.

Address, C. R. THOMAS, Secretary,

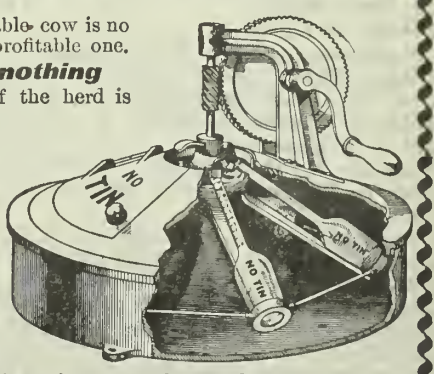
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Kansas City Horse Show will be held same week.

Grade up Your Herd..

The expense of feeding a profitable cow is no more than the cost of feeding an unprofitable one.

It costs comparatively nothing to find out whether each member of the herd is profitable. The

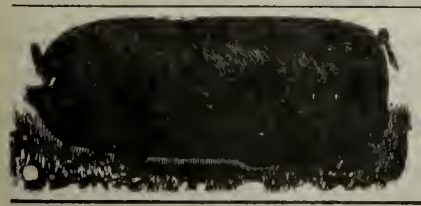


NO-TIN... Babcock Tester

will give exact information. Is substantially built of cast iron, and made to use the ordinary Babcock bottles.

TEST EVERY COW and if she is not profitable, do not keep her. It is the best low priced tester in the world. Send for Catalogue, No. 70.

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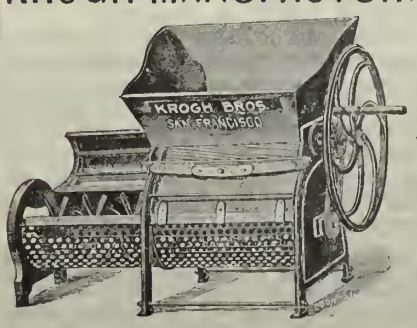
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The Lynwood Herd of Swine have again been awarded the majority of premiums at the State Fair, although the competition was the greatest ever known and the exhibit much the largest. When you want *something real choice* that you can depend upon write JAS. R. BOAL, Mgr., P. O. Box 686, Los Angeles, Cal.

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Patrons of Husbandry.

The Meeting of the State Grange.

Last week we gave an outline of the organization of the State Grange at Napa and the early proceedings. On Wednesday morning, according to the report in the Napa *Register*, reports were received from subordinate and Pomona Granges. The roll was called for new business, which was referred to appropriate committees without debate.

Wednesday afternoon the delegates were driven about the vicinity of Napa on sight-seeing excursions. Large numbers of them were also conducted through the mills and different factories in east Napa.

Wednesday evening, upon the reconvening of the Grange, a communication was read by Worthy Master Greer from E. W. Davis, Past Master of the State Grange, announcing an improvement in the state of his health and offering his best wishes for the present session.

Worthy Chaplain, Sister S. H. Dewey, read an interesting paper on the first session of the State Grange, held at Napa on July 15, 1873.

A vocal solo by Sister Woodhams of San Jose Grange and a piano solo by Sister Olga Christiansen of Eden Grange was then rendered. Afterward was shown exemplification of the secret work of the Order by Worthy Master W. W. Greer.

The following is a complete list of committees appointed:

Agriculture—R. O. Baldwin, W. H. Tredway, J. M. Talbot, Geo. Youde, Jno. Reese, Sister Davis.

Memorial—Sister Mary Flint, Sister E. Schelmyer, Sister Delma Green, S. G. Coulter, W. S. Overhiser.

Fifth and Sixth Degrees—Sister Phillipson, W. V. Griffith, A. G. Fultz, Sister Perry, Sister Beecher, Sister Root.

Pomona Feast—A. F. Blohm, H. N. Fossett, Walter Renwick.

Music and Literary—Geo. W. White, I. C. Steele, Jr, N. H. Root, Sister Delma Green, Sister S. H. Dewey, Sister M. J. Worthen.

Press—E. D. Sweetser, J. S. Taylor.

Credentials—Charles W. Emery, H. C. Raap, L. Schelmyer, Sister Burnham, Sister Ward.

Division of Labor—S. T. Coulter, A. J. Roadhouse, G. W. White, Sister Twitchell, Sister Lauridson.

Good of Order—M. B. Mack, Sister Schelmyer, Sister Griffith, T. W. Ward, J. J. Roadhouse.

Finance—N. H. Lauridson, A. D. Butler, G. W. Rowe, Sister Baldwin, Sister Park.

Co-operation—W. D. Houx, T. E. Davis, A. D. Butler, G. W. Park, Thos. Jacob, Sister Mack, Sister Purvine.

Resolutions—A. E. Burnham, Ernest Farnham, Thos. Jacob, Sister Leigh, Sister Houx.

Education—B. Haywood, Hugh Leigh, Dr. J. Lemon, Sister Twitchell, Sister Houx.

Constitution and By-Laws—A. M. Plummer, R. G. Sutherland, O. N. Twitchell, Sister Rowe, Sister Leigh.

On Thursday morning's session Deputies W. D. Houx, George Conners, E. Greer, E. C. Shoemaker, Chas. W. Emery and N. H. Lauridson made their reports.

Cyrus Jones, auditor of the Executive Committee, sent in his resignation to take effect immediately. The Worthy Master appointed Brother Jones to fill the vacancy caused by his resignation until the election and installation of his successor.

A Committee on Legislation was appointed by the Master as follows: Wm. Johnston of Sacramento, H. C. Rapp of Martinez, N. H. Lauridson of Routiers, A. D. Butler of Napa and Geo. Yonde of Willets.

The fifth and sixth degrees were conferred at the evening session at Odd-Fellows' hall, after which the Grange marched to Turner Hall where the Feast of Pomona was held, followed by a social and dance.

State Fair Awards.—The following resolution was drawn by Bro. E. D. Sweetser and presented by Worthy Master D. Houx in his report of Sonoma County Pomona Grange:

WHEREAS, The giving of premiums, medals and diplomas in the past has promoted wholesale competition among county exhibits at the California State Fair and materially contributed to the development of the resources of our State; and

WHEREAS, The State Agricultural Society has seen fit to drop such provisions from its premium list, now therefore be it

Resolved, By California State Grange, that the State Agricultural Socioty is hereby earnestly requested to restore such provisions to their annual premium list, and that they be made upon a liberal scale, commensurate with the vastly increased importance of the products of this great State.

On motion of Wm. Johnston, Past Master State Grange, properly seconded, the rules were suspended and the resolution was taken up out of regular order and passed by an unanimous vote without the formality of being referred to a committee.

Election of Officers.—The following officers were elected for the ensuing two years: G. W. Worthen, Willowglen, Master; C. W. Emery, E. Oakland, Overseer; J. S. Taylor, Napa, Lecturer; E. C. Shoemaker, Visalia, Steward; Mrs. S. H. Dewey, Oakland, Chaptain; A. D. Logan, S. F., Treasurer; Miss Laurola S. Woodhams, Santa Clara, Secretary; I. C. Steele, Jr., Pescadero, Ass't Steward; M. D. Hopkins, Petaluma, Gate Keeper; Miss Delma Green, Courtland, L. A. Steward; Mrs. John Bucker, Stockton, Ceres; Miss Belle Johnston, Courtland, Pomona; Miss Ella Cornell, Routiers, Flora; Miss Lena Lull, Sheldon, Organist; Executive Committee—H. F. Blohm, Watsonville; W. D. Houx, Petaluma; Daniel Flint, Sacramento; G. W. Worthen, Willowglen.

A Convention of Co-operators.

J. W. Moore of San Francisco, president of the "Pacific Coast Co-operative Union of America," sends us a circular announcing a convention to be held in this city on Tuesday, November 7th. The circular says:

The convention is called under Rochdale auspices, and development will be promoted along the lines of that plan, which, during the fifty years since it started, has spread to nearly every civilized country, and has gained for its millions of members that equality of wealth distribution which we are seeking. The Rochdale plan has reached a very high degree of perfection; nevertheless the programme will be so arranged as to admit of the broadest discussion to the end that the most practical plans may be adapted.

All farmers' organizations, labor unions, co-operative packing and canning concerns and the like are invited to send delegates. Full information can be had from J. C. Buttner, secretary, 308 Davis St., S. F.

The Coming Fruit Growers' Convention at San Jose.

A meeting of the San Jose Farmers' Club was held Saturday, Sept. 30th, to make arrangements for the sessions of the State Fruit Growers' Convention to be held this year in San Jose for four days, from December 5th to 8th inclusive.

The club appointed a committee of three and the Grange and Board of Trade were each asked to appoint a similar committee, the whole to constitute a joint committee of arrangements. It was agreed that the joint committee should have charge of all arrangements and appoint all necessary sub-committees.

Chairman Cragin appointed as such committee Judge J. R. Lewis, L. F. Graham, and H. A. Brainard.

On motion of Judge Lewis the chairman was instructed to appoint a committee of three to act with a similar committee of the Grange and Board of Trade with the object of securing the location in San Jose of a station of the government weather bureau. F. M. Righter, Wm. Hunter and J. R. Johns were appointed as such committee.

A CHANGE in their advertisement this week announces that the Pasteur Vaccine Co. has opened a branch office in San Francisco. Look for the place. This will be of great advantage to the California patrons of the company.

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U. S. A.

Cigar-Leaf Tobacco in Florida.

A report on the Florida tobacco industry will soon be issued by the U. S. Department of Agriculture as Report No. 62, entitled "Cultivation of Cigar-Leaf Tobacco in Florida." It was prepared by Mr. Marcus L. Floyd, tobacco expert of the Division of Soils, in cooperation with the Division of Vegetable Physiology and Pathology of the Department.

Mr. Floyd has had about twelve years' practical experience in the development of the Florida tobacco industry and the results of that experience are embodied in the report.

The report describes the methods used in Florida in cultivating, curing, fermenting, grading, sorting and baling Florida grown and Cuban and Sumatra tobacco.

It begins with a chapter on the requirements of the cigar-leaf trade, states what kinds of tobacco are demanded by the trade both for fillers and wrappers and what must be furnished, and shows that Florida is gradually approaching the condition necessary to supply the tobaccos required.

The cultivation of Cuban and Sumatra tobacco in Florida is fully described, beginning with the kind of soil necessary, its preparation, burning of the ground for seed beds and how it should be fertilized. Then follows the division of the land into beds, the sowing of seed and selection of early seed beds which should be situated on lands sloping from north to south, protected on the north by forests and open on the south to let in the midday sun. The report says it is safer to protect these early beds by covering them with cheese cloth stretched on frames made around and over the beds.

A description of the methods employed in keeping down insects, drawing plants for transplanting, field cultivation, harvesting and curing the leaf is then given. This ends the work of the farmer.

An account of the manner in which the tobacco is handled after it reaches the packing house follows. When it arrives there it is put up in neat and easily handled paper bundles. It is first divided into grades, sorted and tied in hands of about fifty leaves each, after which it is bulked and fermented. After fermentation it is put in cases where it remains three or four days, by which time the moisture in the leaf becomes uniform. It is then made into what are called Cuban carrots and put in bales, eighty carrots to the bale.

The report also gives a brief history of the development of the tobacco industry and cost of growing tobacco in Florida, and a description of a barn or curing shed adopted by the most successful growers.

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The New Wide Tire Law.

The new law, which will go into effect January 1, 1900, does not prescribe tires in terms of weight capacity, but in dimensions of skeins and axles, as follows:

SECTION 1. The width of tires for wheels upon wagons or other vehicles to be used upon public highways of the State of California shall be, for the following styles of wagons, as follows: Two and three-fourth-inch steel or thimble skein axle, 1⅞-inch tubular steel or iron axle, not less than 3-inch tire; 1½-inch steel or iron axle, 2⅛-inch tubular or iron axle, not less than 3½-inch tire; 3-inch steel or thimble skein, 1⅝-inch steel or iron axle, 2⅜-inch tubular steel or iron axle, not less than 4-inch tire; 3¼-inch steel or thimble skein, 1¾ or 1⅞-inch steel or iron axle, 2⅝-inch tubular steel or iron axle, not less than 4½-inch tire; 3½-inch steel or thimble skein, 2-inch steel or iron axle, 2⅞-inch tubular steel or iron axle, not less than 5-inch tire; 3¾-inch steel or thimble skein, 2¼-inch steel or iron axle, 3 or 3⅛-inch tubular steel or iron axle, not less than 5½-inch tire; 4-inch and larger steel or thimble skein, 2½-inch and larger steel or iron axle, 3¼-inch and larger tubular steel or iron axle, not less than 6-inch tire. Other styles of axle shall have tires of same width as those of equal carrying capacity above specified. All intermediate sizes shall have tires of the same width as the next larger size above specified.

To translate these dimensions into weight capacity, we secured the following table of equivalents from one of the best authorities in the vehicle trade on this coast:

Size.	*Width of tire.*	*Capacity, lbs.*
2¾-inch steel or thimble skeln..	3 -inch	2,500
1⅛-inch steel..	3½-inch	2,500
2⅛-inch tubular..		
3 -inch steel skein..		
1⅝-inch steel..	4 -inch	3,000
2⅜-inch tubular..		
3¼-inch steel skein..		
1¾-inch steel..	4½-inch	4,000
2⅝-inch tubular..		
3½-inch steel skein..		
2 -inch steel..	5 -inch	5,000
2⅞-inch tubular..		
3¾-inch steel skein..		
2¼-inch steel..	5½-inch	7,000
3⅛-inch tubular..		
4 -inch and larger steel skein..		
2½-inch steel..	6 -inch	9,000
3¼-inch tubular..		

German Prize for Beet-Lifting Machine.

H. W. Diederich, U. S. Consul at Magdeburg, writes to the State Department that among the agricultural implements needed in cultivating the sugar beet, no machine is more useful than a good beet digger. In fact, some such device has become absolutely indispensable to everyone engaged in that kind of work. A number of beet-digging machines have been brought into the market, some of which are very serviceable. In order to ascertain which is the best, the "Deutsche Landwirtschaft-Gesellschaft" (German farming association) has opened a prize competition, offering premiums amounting to a total of 550 marks ($130). The examination of the competing machines is to be held in the fall of the year 1900. An additional prize will be given to that machine which will raise and top the beets at the same time.

In conjunction with the above association, the "Verein der Deutschen Zuckerindustrie" (association of the German sugar industry) has offered prizes amounting to 8000 marks ($1904) and 10,000 marks ($2380). These prizes will be given to machines that are not only the best of those exhibited in the competition of the farming association, but that in addition thereto come up to certain requirements and specifications set forth in the conditions of the prize offer. These conditions have not yet been published.

This competition is not confined to German manufacturers. Foreigners will also be admitted, and it is expected that the results of these offers will go a great way towards solving the important question under consideration.

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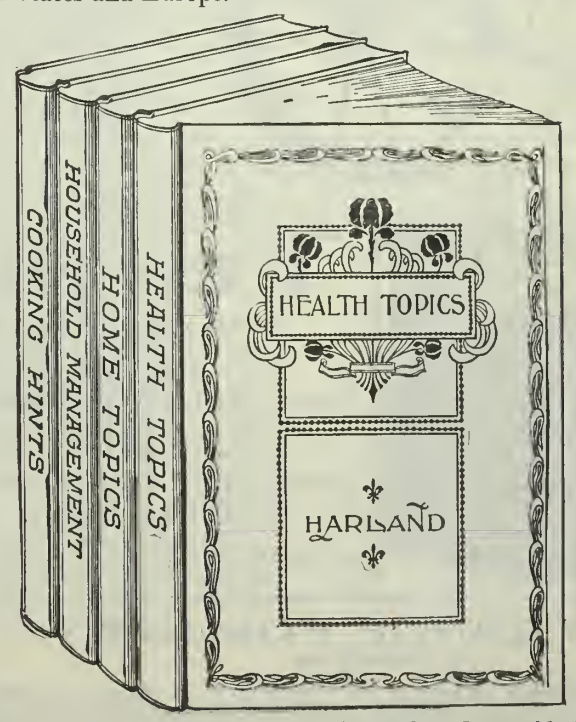
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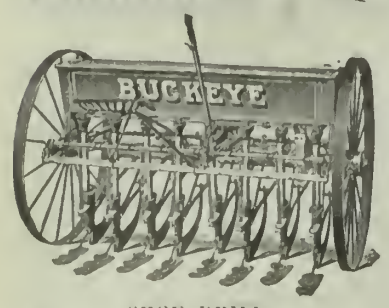
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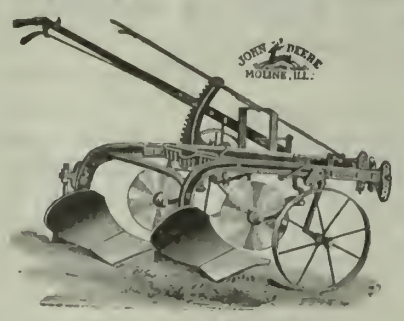
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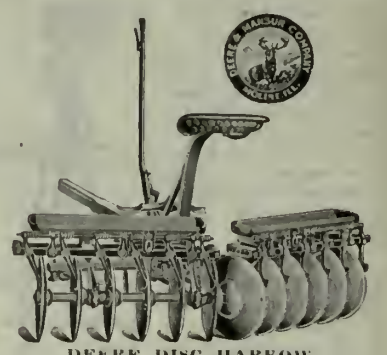
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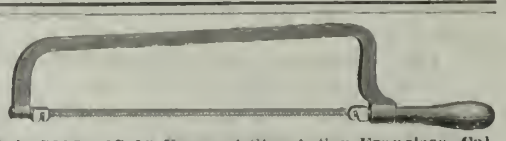
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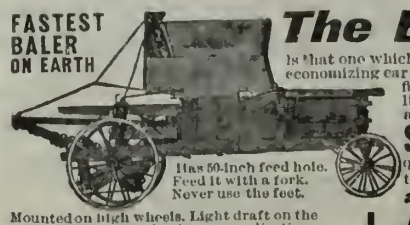


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THE
PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 17 SAN FRANCISCO, SATURDAY, OCTOBER 21, 1899. TWENTY-NINTH YEAR.
Office, 330 Market Street.

The Loganberry.

The third edition of "California Fruits and How to Grow Them" recognizes the unique character and wide popularity of one of the new fruits of California by using as a frontispiece the beautiful plate which appears upon this page. It is unquestionably the best portrait of this fruit which has yet been secured, and it faithfully presents the natural size of the fruit. The Rhode Island Experiment Station some time ago welcomed this California fruit to the East by an excellent bulletin solely given to it, but, unfortunately, working from the same negative from which our plate was made, it secured an engraving about one-eighth less than the natural size. So far as we know, our plate is the first to present the berry with truth to itself. Some reader may say he has grown larger specimens. Quite likely; we have seen larger, but this fruit was ripened in January near the coast in central California, and that it should attain such size and beauty in that month is glory enough.

The Loganberry has demonstrated its value so widely in California that it has evidently enrolled itself among the fruits which will remain with us. It has clearly marked out a field for itself. It is not likely to displace either the raspberry or blackberry as a table fruit except with those who have a taste for a sprightly, acid fruit; but for all cooking purposes known to us it is pre-eminent. It is our conviction that for jams and jellies and for pies no berry in the world approaches the Loganberry. For short cake the Loganberry has not an equal in the berry family, except perhaps the strawberry. Matters of taste are proverbially beyond argument; we simply state our belief.

Although readers of the RURAL are tolerably familiar with this fruit, some may have overlooked it and a few facts will be of interest in connection with the plate given herewith.

The Loganberry was originated by Judge J. H. Logan of Santa Cruz, and is a cross between the California wild blackberry and a red raspberry, thought to be the Red Antwerp. It was a chance hybrid developed by growing plants from the seed of the wild blackberry in 1881. The plant was multiplied by its originator and fruited for more than ten years, plants being meantime given to Mr. James Waters of Watsonville, who grew it on a commercial scale and was gratified at the results of his marketing of the fruit. The variety was given first to the public through the University of California in 1893 and has since then been propagated by nurserymen and sold in large quantities. It has proved a most valuable fruit in all parts of California, and has commanded the attention of pomologists and growers all over the world. The Loganberry is an exceedingly robust grower, and has unique foliage and cane growth as well as fruit. The fruit is strikingly large and handsome—sometimes an inch and a quarter long, with the shape of a blackberry, and sometimes the hue of a dark red raspberry. Its flavor is unique and peculiar, and gives to many tastes suggestions of the combination of blackberry and raspberry flavors.



Actual size; photographed in Santa Cruz in January.

THE LOGANBERRY—A CALIFORNIA HYBRID BY JUDGE J. H. LOGAN OF SANTA CRUZ.

THE California State Association for the Storage of Flood Waters met recently in this city and adopted an address to the people of the State. It included a call for a convention to be held in San Francisco on November 14th, "to consider the bearing which the increase of the available waters of the State for agricultural, horticultural, mining and mechanical purposes will have upon its future growth and prosperity, and to devise plans and means whereby this important result may be attained."

IN the nine months ending Sept. 30th, 2700 miles of new railroad was laid in the United States.

The Fig Interest.

We gave last July the account of the successful introduction of the blastophaga, which is to pollenize our Smyrna figs and enable us to turn out something as good as the fig of commerce from our drying grounds. Dr. W. T. Swingle of the U. S. Department of Agriculture, who secured in Smyrna the insects which reached Fresno last spring and proceeded to settle down for business as we have already described, is now in California to see how his proteges are to endure the winter and to look into other introductions of plants, seeds, etc., which may be of value to California. Dr. Swingle has traveled a good way arcund the world in the hunt for good things for American growers and enters fully into his mission. We believe he will accomplish much. He has in hand a new importation of the best varieties of dates and thinks they will be secured this time. The dates will probably be installed in Arizona.

But the blastophaga is the item which seems to us of the highest importance to California and in the work of making their acclimation sure by the successfully passing of a winter. George C. Roeding is earnestly interested and will do his best to accomplish it with all the light which Dr. Swingle can shed upon the operation. The blastophaga passes the winter in the interior chambers of the Capri or wild fig. To properly house them the last crop of the Capri fig must remain on the trees during the winter. In too frosty places—and the Fresno plains belong in this class—as soon as the early frosts come on, the figs will drop from the trees and the blastophaga will die unless some provision is made for their protection. Mr. Roeding's idea, according to an account in the *Republican*, is to remove the insects to the foothills during the winter months and keep them in a sheltered locality where the frosts will not interfere with their habits of reproduction. He feels confident that the blastophaga can be kept there during the cold season. In the summer the problem for caring for them is comparatively simple for the reason that the plains' climate is suitable and there is every opportunity for rapid reproduction. In Smyrna—the home of the blastophaga—the problem of hibernation does not have to be met by fig growers. The insects have their origin in the wild Capri figs which grow in the mountains, and all the grower of the Smyrna fig has to do is to go up from the valley each spring and bring down branches containing the wild fig. These branches are hung on the Smyrna trees and the insect transfers the pollen from them to the edible fig. Instead of preserving the blastophaga through the winter, a fresh supply is secured each spring. This is on a larger scale what Mr. Roeding proposes to do in Fresno.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, October 21, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The rainy season has started in in good shape and covered the State well with its first installment. Few places received less than an inch and many secured an inch and a half. Los Angeles has received fifteen times as much as it did last year up to this date, so the south bids fair to stand in well this year. The rain came rather late and it came with ample warning from the Weather Bureau, so that drying fruits and other property was largely protected from injury; and yet there were some unfortunate losses by wetting of grain, hay and straw which was left out, and some fruits injured as well. It never seems to be possible for some to realize that danger menaces until something falls on them. Most, however, take the lesson good-humoredly and are glad enough to know that California skies can really do something else besides being blue and pretty. Since the rains there have been many lovely days, and clearing up the ends of the season's work has proceeded rapidly everywhere.

Wheat has gone off again, and a local feature is said to be the difficulty of getting ships ready to take it. There is a great rush of business on the city docks this fall, and Uncle Sam's transports form part of it. The result is that arriving ships are obliged to lie in the stream, with no chance to discharge their cargoes and get ready for wheat. How long the detention may be is differently estimated, but it seems to be enough to scale off futures on wheat a little. The warehouses are full and no chance to move it. Barley is steady for shipping and lower for feed. Oats are in good demand; corn is unchanged and in better supply. Bran is higher; middlings and other feed about the same. Choice hay is looking up a little, but low grades are weak. Beans are improving and are in good request—especially Limas and Whites. Hogs are weak and unsteady, threatening to droop if rains continue. Fair weather will help the hog market probably. Fancy butter and eggs are still rising and are scarce. Dried fruit is firm. Apples are in active demand.

Since our last issue Great Britain and the Boers have fallen into war in South Africa, and the time of universal peace seems to have been given another hitch into the future. American sentiment seems to be quite divided between the contestants in this issue, but that doesn't matter much, for what they want from America is beef. Mr. Bull bought a million pounds in Chicago the other day. We are much in position to say: "Go it, Bull; go it, Boer. Never mind what you lose if you keep your appetites."

East and West Again.

We have never wholly lost confidence in the East. In spite of the narrowest utterances and the most infinitesimal points of view of some of those who have spoken for the East during the last quarter of a century, we have always believed that ere long deeper insight and consequent awakening to the truth would come and a broader view and sounder conception of the relation of the development of the West to the prosperity and progress of the whole country would result. Indications are discernible that such a consummation most earnestly to be desired is to be realized speedily. Such declarations as that which we find in the last issue of the *Orange Judd Farmer* are in evidence:

Whatever may be said for or against a colonial policy in the tropics, the American people should be an absolute unit for this development of the great region west of the 100th meridian. This is the one section left in which remain vast areas of unoccupied land. But this land can be made available only by irrigation. How best to accomplish irrigation, and the relations to it of the Federal Government and of the various States, are complex problems worthy of the best thought. The East has been rather opposed to construction of storage reservoirs at federal expense, on the ground that it would mean increased competition with eastern agriculture. Such fears have far less basis than the well grounded fears of the competition of tropical agriculture under coolie labor with our domestic farmers. And a fraction of the money that has been spent by the United States for war purposes during the past eighteen months would have constructed enough storage water reservoirs to have irrigated millions of acres. This would also have mitigated the floods that are often so serious in the Missouri and Mississippi valleys. *Orange Judd Farmer* fully sympathises with the high purpose and desires of the enterprising arid West, and looks to the irrigation congress to unite all these interests in an irresistible movement for the general welfare. In this purpose is indissolubly bound up the future good not only out of the arid West but of the whole country.

We are not arguing the war or expansion propositions, so we pass those allusions. The development of the West is not conditioned upon the cost or results of the war, but the results of the war will minister to the development of the West all the same, and the development of the West will react upon the prosperity of the East, and during the first part of the next century there will be activity and growth and industrial and commercial progress in this whole country such as it has never seen hitherto. Nothing can stop this course of affairs, but it can be promoted or restricted by wise or unwise policies, and although we cannot arouse in ourselves any fright whatever on account of the foreign operations of the United States, we are quite willing that others should grow faint-hearted if they enjoy it. Their conservatism may prevent the Government from going too fast or foolishly.

But that is not the question, though our contemporary likes to use it as a background for his brave declaration in favor of cordial Eastern support for Western progress. The main question is, will the East understand the earnest desires and aspirations of the West, and appreciate the fact that the United States is not a house divided against itself, but a united people, whose interests are mutual and whose regional developments will interact and support sach other?

Our contemporary accepts the Irrigation Congress as an exponent of the Western spirit of progress, and that is warranted by the representative character which this organization now assumes. We are glad to mention again, as we have taken pleasure in doing from time to time in the recent past, that the Irrigation Congress has come into a much higher estate than that into which it was born. It has apparently passed quite beyond the reach of the boomers and land grabbers and reached a state of earnest aspiration for broad and sound industrial progress throughout the arid region. The latest demonstration of this fact is found in the choice of Elwood Mead for president, which was made at the recent meeting in Montana. Mr. Mead is conspicuous for certain qualities which are essential for leadership in the broader life which has come to the Irrigation Congress. He is eminent for mastery of legal principles and methods upon which the irrigation reclamation of the arid region must proceed and he is accepted everywhere for breadth of view and spirit, disinterestedness and sincerity and he will do more than any other man can do, so far as our knowledge of men goes, to convince the East of the lofty purpose and purity of motive of the effort which will now command the attention of the whole country.

Other evidence of the character of the newer life of the Irrigation Congress is to be found in the official declarations at the Montana meeting, which for ease of retention in the memory we condense into the following propositions:

We favor the leasing of the public grazing lands at a nominal rental in limited areas to settlers farming adjacent lands, the revenue from rentals to go to the States and Territories, wherein the lands are situated, for irrigation development.

We favor the preservation and development of our national resources by the construction of storage reservoirs by the Federal Government for flood protection and to save for use in aid of navigation and irrigation the flood waters which now run to waste and cause overflow and destruction.

We believe that the water of all streams should forever remain public property and that the right to its use should inhere not in the individual, or the ditch, but in the land reclaimed, * * * and become appurtenant to the land irrigated, and beneficial use be the measure of the right, and the irrigated home be protected from litigation by the establishment of a State system for the equitable and final adjustment of the rights of irrigators to the distribution of the waters of the streams.

We oppose the cession of the public lands of the nation to the respective States and Territories, except upon conditions so strict that they will insure the settlement of such lands by actual settlers in small tracts and absolutely prevent their absorption in large bodies under private ownership.

These are broad principles, and we believe that those who are now making the issue for the irrigation development of the West will stand firmly and squarely upon them. They should be surety both to the East and the West that the irrigation movement is not a cloak for land grabbing nor for leading out multitudes to be swindled by desert land schemes of colonization. Colonization is a good thing when it is properly done, as the growth of some of the leading fruit sections of California can bear witness, and colonization which will follow proper preliminary work along the lines marked out in the declaration of purposes of the Irrigation Congress, as given above, will be the legitimate outgrowth and culmination of the effort.

We are not surprised that the present attitude of the whole matter commends itself to the Eastern mind. We expect it to prevail in the end and to advance toward that end as rapidly as it is rightly understood and its motives appreciated. Any other basis of popularity will not suffice. This alone will be enduring.

The regular annual convention of fruit growers at San Jose seems to have run amuck of the jubilee week which is to celebrate the fiftieth anniversary of the admission of California. The jubilee people wish the convention to co-operate with the jubilee, but the local committee having in charge the preparations for the convention contend that it would not be advisable to hold the convention during the jubilee, as the pleasures afforded by the latter would interfere with the work of the convention. By a close vote a motion was carried, at a meeting in San Jose last week, instructing the secretary to communicate with the secretary of the State Board of Horticulture and ascertain if it would be possible to change the time of the convention. This should, of course, be done. There can be no such thing as combination of the convention with the jubilee. It would be like the lion and the lamb lying down together and only one of them rising a little later. It is hard enough to hold a convention down to business under ordinary conditions and a jubilee would simply ruin it.

The trade statisticians say that the California growers will receive something like $15,000,000 this season for such products of their orchards and vineyards as are canned or dried.

QUERIES AND REPLIES.

A Late Freestone.

To the Editor:—I have in years past sent you seedling peaches that have originated in this county. One variety which bears some resemblance to the Muir, and is ten days later than the Muir, has been propagated and planted to some extent in the orchards here. The peach I send you now will prove valuable for this section, I think, on account of its being extremely late for a real good yellow-fleshed freestone variety. It is full two weeks later than Salway, and, as I think you will admit, a more handsome and better flavored peach.—W. T. Kirkman, Merced.

Mr. Kirkman sent us this peach before and we pronounced it very desirable as a late yellow freestone. We are glad it is being planted in proper places for late varieties for a certain amount ought to meet a good demand. It is a round peach of a deeper color, especially around the pit where it is very red. Tne flavor is very good for so late a peach.

Drouth, Not Paris Green.

To the Editor:—For the last four years we have sprayed all our pear trees with Paris green. This last spring the Winter Nelis blossomed out very finely but the blossoms dropped off. Then they did not leaf out properly and have continued since in a dried-up, scorched condition. The Bartletts, on the other hand, have done well both in fruit and foliage, only some drying up in hilly places. Would you think the condition that the Winter Nelis are in due to the dry seasons or the use of Paris green in spraying?—Grower, Santa Clara county.

We think that the peculiar behavior of your pear trees is entirely due to the uncertain moisture supply of the summer of 1898. Many trees were disastrously effected by that drouth and it may take them some time to recover. They were too much weakened to hold the blossoms which they formed and to make suitable leaf growth afterward. The Bartlett is rather a more vigorous grower and will, as a rule, stand more hardship than the Winter Nelis.

A Cypress Borer.

To the Editor:—My Monterey cypress trees have for the last year been infested with a small bug (brown beetle). They begin operations by boring into the smaller and more tender outside shoots, causing them to wither and die, but eventually bore into the stem, thus killing the tree. Can you inform me of any means of exterminating these pests?—J. C., Sacramento.

The insect is one of the scolytids, or bark beetles, and its full name is *Phlœosinus cristatus*. It has been known to work in cypress hedge trees for several years, and the pest was identified from specimens sent from the Alhambra valley, in Contra Costa county, to the Government entomologist at Washington over six years ago. The insects normally breed in dead wood; but, having acquired a taste for live wood, they do not hesitate to gratify it, and become quite abundant. They are difficult to cope with. Cutting out and burning infested limbs, and the same treatment of trees which they have killed, will tend to reduce them by destroying them in their breeding places. If such trees are allowed to stand, they continue to send out more beetles to extend the injury. We know of no other treatment which seems practicable.

Where Is the Best Wind?

To the Editor:—My windmill will not empty my well. It has a high lift and the mill is about 30 feet above the ground, on a tower. The windmill man who furnished the mill says that where there are no buildings or trees in the way, and if my windmill was only high enough above the ground so as to be clear and free from touching the ground about 3 or 4 feet, it would do better work; that the low wind near the ground would cause it to run more regularly and do better work than the mill that is now up from 30 to 35 feet above the ground; that he would advise me to lower my windmill from where it is to from 3 to 4 feet above the ground. Do you think so?—Reader.

We suppose there may be situations where the wind is stronger just above the ground surface than it is at a higher elevation; but all the inquiry that we can make seems to convey the idea that, as a rule, a more satisfactory wind can be obtained at a height of about 30 feet. In a description of the so-called "Jumbo" windmills, which are large horizontal wheels placed near the surface of the ground, with the lower part shielded with boards, so that the wind only plays upon the upper part of the wings, it is said: "Such a contrivance is, of course, less efficient and less reliable than the regular form of windmills, because it is placed so near the ground that it does not receive full force of the wind." Several people who have had experience in this line, whom we have interviewed, are very sure that they have a stronger current at the elevation of about 30 feet than they have near the ground, although the situation is completely free from trees and buildings. All this information, then, would indicate that the windmill man is not correct, and yet there may be locations where, owing to some peculiar local conditions, there would be a stronger wind, as he says. What do others know about it?

Too Hard Freezing.

To the Editor:—Can you inform me the best method for protecting orange trees from freezing? My trees have been planted one, two and three years. The freezing is from the ground and up about fifteen inches. The trunk only suffers and cracks or bursts open when a part or all of the tree is killed. Formerly I have used no protection.—L. H. Hill, Oakdale.

This is rather harder freezing than is contemplated by the usual methods of protection that are used in the south. If such temperature comes often, that particular spot is not suited for the orange. The injury to the trunk can probably be prevented by wrapping with straw before cold weather comes on and enclosing the top with sacking; but probably the location is too frosty to do much with the orange.

Sun Drying of Fruits.

To the Editor:—Is there any book treating in full on sun-drying fruits with description of different machines used in this trade—cutters, graders, dippers, etc.?—Subscriber, Ioamosa.

There is no such book. "California Fruits" gives an outline of the way each fruit is handled and is the fullest information available, but it does not describe all appliances. The best way to secure information about them is to correspond with those who advertise such things in our columns.

A Revolving Bloomer.

To the Editor:—I have just read with interest your article on "Unseasonable Bloom" in the Press of this week. I cannot believe that the unseasonable bloom is due to the dormancy, or partial dormancy, enforced upon the tree by lack of moisture. In our yard here in Sacramento stands an apple tree not 6 feet from a hydrant, and the tree has been watered continually throughout the year. It was purchased for a June apple and has borne fruit for the first time this season. The first apples were picked from it in June, and the tree has been in bloom five times since. At the present writing there are apples on it in three stages of development and also blossoms. This "California freak" must be explained in some other way than lack of moisture.—Mrs. Hetty A. Dunn, Sacramento.

It does look that way. It may have to be explained by the doctrine of contraries. Too much often produces the same effects as not enough. We would like to have this proposition discussed in the light of wide observation. What have others seen and how have they accounted for it?

Peas and Winter Grasses.

To the Editor:—Please tell me what variety of pea I send herewith, also whether it will stand frost and make good winter feed. Which is best for winter feed the Canada pea or the cowpea? Which are the best winter grasses?—Reader, Humboldt county.

The writer sends one pea and about two inches of the tip of a pea vine. It is impossible to tell a variety from such slight evidence. There are so many peas that it is difficult to distinguish between them even with a good deal of material. We ought to have a sample of the flowers, the leaves and the pods. With this material it may be possible to determine the kind. As to whether it will stand frost in your locality, it is hardly likely that we could tell that even if we could tell the variety, because, generally, that can only be determined by local trial. The peas, however, are among the most hardy of legumes, and the presumption is that it will stand a good deal of frost. The Canada pea is a hardy pea which would probably stand your winter. Thecow pea is a bean and will not stand any frost at all. On moist land in the summer time it makes a very satisfactory growth and like all the peas and beans is a food very rich in protein, and, therefore, good for dairy feed. Oats and peas sown together have been found by many to be a very satisfactory winter feed. The best grasses for winter pasture are the Australian rye grass, Orchard grass and Tall Meadow Oat grass.

Shelled Almonds.

To the Editor:—Prices for shelled almonds have not been quoted in the Pacific Rural Press. Is there a good market for them, and, if so, for what are they selling?—Almond Grower, Woodland.

Our market reporter advises us that they are in good demand and quotable at 25c per pound.

"The Pacific Rural Press, which under all circumstances has proved itself to be a true friend of the fruit growers,"—that is the way the San Jose *Mercury* puts it.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Oct. 16, 1899.

Alexander McAdie, Forecast Official and Station Director.

The extreme heat of the preceding week was followed by cooler weather, and by frosts in some sections. The temperature for the week has been several degrees below normal in all parts of the State. Rain on the 12th, 13th and 14th was quite general, though comparatively light in some localities. As ample warning of the approaching storm had been given, dried prunes and the first crop of raisins were mostly under cover, and very little damage was done. Grapes still on vines were slightly injured, and in some sections hay, grain and beans were damaged. The second crop of raisins is now on the trays. Citrus fruits show a marked improvement and large crops are expected. Oranges will mature earlier than usual. Pasturage was greatly benefited. The soil is now in good condition for plowing and farm work is progressing. Reports from all sections indicate that the slight damage to fruits has been more than compensated for by the immense benefit to other crops, and farmers and orchardists anticipate a remarkably good season.

Sacramento Valley.

Citrus fruits were benefited by tbe rain. Orange and lemon trees are in fine condition and prospects are good for large crops. In some localities orange shipments will begin about November 15th. Dried fruits were but slightly damaged by rain, as ample warning bad been given, and most of tbe fruit on tbe trays was placed under cover before rain commenced. Wine grapes were somewbat injured. Reports from all sections indicate that tbe rain was mucb more beneficial tban barmful. Plowing and seeding will now progress rapidly, as tbe soil is in good condition. Pasturage was greatly benefited by rain. Grain and bay still in tbe field were somewbat damaged.

Coast and Bay Sections.

Tbe extreme beat of last week was followed by cooler weatber, and in some sections a light frost occurred on tbe 12tb. Tbis was immediately followed by rain, quite beavy in some localities. Nearly all dried fruits were under cover, as timely warning of tbe approaching storm had been given, and but little damage was done. Grapes still on tbe vines were slightly injured in some vineyards. In tbe Sonoma valley the precipitation amounted to 1.45 inches and in San Luis Obispo 1.62 incbes. Beans were considerably damaged and barley still in tbe fields was injured. Tbe soil is in good condition for plowing and farm work will begin at once. Pasturage was greatly benefited.

San Joaquin Valley.

Vineyardists bad ample warning of the storm, and raisins and prunes were mostly under cover. The second crop of raisins was slightly injured in some localities wbere not properly cared for. Shipments of green and dried fruits continue. Citrus fruits were benefited by tbe rain. Wine grapes are still very plentiful. Tbe precipitation througbout tbe valley probably averaged about 1 inch; Fresno reports 1.21; Merced, 1.24; Modesto, 0.86; Huron, 1.04; Tulare, 0.89; Visalia, 0.70; Bakersfield, 0.51. The rainfall was sufficient to start grass and enable farmers to commence plowing. Tbe temperature was several degrees below normal, and light frosts occurred in some sections.

Southern California.

Raisin growers received timely warning of tbe rain, and in nearly all vineyards trays were stacked in time to prevent damage. Table and wine grapes were somewbat injured. Citrus fruits were greatly benefited by tbe rain, and good crops are expected. Tbe rainfall at San Diego was light, only 0.35 incb being recorded, wbile at Los Angeles it amounted to 1.38 inches, and in portions of Santa Barbara county 1.50 inches; in tbe mountain regions it is reported tbat tbe precipitation for tbe storm amounted to nearly 4 incbes. Some damage was done to bay, beans and untbresbed grain. Alfalfa and pasturage were greatly benefited.

Eureka Summary.—Rain in tbe middle of the week greatly improved condition of grass. Tomatoes continue plentiful. Potatoes and late corn are being harvested. No damage from frosts reportcd.

Los Angeles Summary.—Tbe first general storm of the season at middle of tbe week; tbe rain was general and copious in tbe valleys and beavy snow fell in the mountains. While some damage resulted, tbe benefit was mucb greater. Farming operations are becoming greater.

The following data for the week ending 5 A. M. Wednesday, October 18, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.98	2 61	3.09	2.61	38	62
Red Bluff	.52	.54	.78	1 41	42	78
Sacramento	1.34	1.38	.70	.73	46	70
San Francisco	1.51	1.53	1.75	1.07	46	64
Fresno	1.11	1.21	1.15	.69	42	68
Independence	.02	.37	.31	.63	30	70
San Luis Obispo	1.46	1 62	.37	1.27	46	76
Los Angeles	1.06	1.38	.09	.72	44	76
San Diego	.37	.42	.07	.35	70	48
Yuma	.00	.08	.18	.86	42	82

HORTICULTURE.

Walnuts and the Jordan Almond.

To the Editor:—Your letter and samples of walnuts grown in the northern part of Santa Barbara county duly received. Your correspondent writes that he is the owner of a plantation of about 500 walnut trees, which have all "died back," more or less, except a few, and these few have nuts like the samples sent to me; furthermore, that the trees bearing these nuts were scattered here and there, and your correspondent came to the conclusion that there must be something in the variety which accounted for the health and vigor of these trees, while others were unhealthy; and he is very desirous of knowing what the variety is, and finally you submitted the matter to me, as it came to you, to see whether I could recognize this nut as one of which is known by name, and whether, if so, it is one which I have found particularly thrifty.

The Nuts Identified.—The samples sent to me are nothing else but nuts of the "Santa Barbara Soft Shell," of any generation, and are identical in shape, ruggedness of shell, prominence of seam to nuts of that well known variety sent to me from Los Angeles, Orange, Ventura and Santa Barbara counties. The main features of that nut are its triangular shape, the prominence of the seam and the roughness of the shell, so much so that the whole appearance of the nut is against it as a market or dessert nut, particularly so when put side by side with superior nuts. Though being of a fair size, thin shelled and with a full-fledged kernel of good quality, the nut is of a dark color, having to be bleached to render it marketable, and another defect with it is it is not closed enough to prevent egg deposit by insects. I might mention here, incidentally, that that variety is also very delicate and often injured by frost both in the spring and fall of the year, but that has nothing to do with your query as to the identity of the sample nuts sent to me.

Why Some Trees Are Better Than Others.—It is very likely that if your correspondent's diseased trees were all right, and nothing the matter with them, they would bear such nuts as these few isolated and relatively healthy trees bear; therefore the latter ones cannot be regarded as of a different variety, and are likely the same kind as the other trees comprised in that plantation—that is, Santa Barbara soft shell, of any generation, for in southern California they are not particular what generation a walnut tree may be.

To make you better understand how rough is the appearance of these Santa Barbara walnuts, I send you with the present samples of nuts grown on my own place, and on "grafted" trees, with the name of the variety written on the shell, to wit: Mayette, Cluster and Meylan. Along with them I send a Santa Barbara soft shell from your own correspondent's samples, for comparison, not knowing whether you have any more of them on hand. You will readily perceive how smooth and white is the shell, though the nuts are from the crop of 1897 and were never bleached. You will also notice that the seam can hardly be felt under the fingers, while that of the Santa Barbara nut is so prominent, and that they are well closed and, you may say, moth proof. Walnut dealers in New York lay quite a stress on that point.

Cause of Die back.—As to the die-back of your correspondent's trees, I am at a loss to account for it, unless it be that the tap root—which by all means should have been cut back at planting—has struck wet ground, which would explain the tree dying back at the top instead of on side branches. The trouble surely arises from the roots, and it would be well for your correspondent to dig all around a diseased tree, and deep enough to ascertain whether the trouble is not with the roots, especially the tap one. At the same time he could apply the following solution: Sulphate of iron 1 pound, common salt 7 pounds, alum 2½ pounds, to be dissolved in twenty gallons of water. For a larger quantity of the solution, multiply by ten or a hundred. The solution is applied all around the foot of the tree, after the earth has been removed a couple of feet from the tree, twice a day for two days, then the earth put back. This solution gives vigor to roots that are not diseased, corroding those that are affected, and giving a new life to roots partially attacked. This solution may be employed with success for any class of trees showing signs of decay, suspected to arise from diseased roots.

[Mr. Gillet is unquestionably right as to the superior form of the French varieties, which he accurately describes. The southern soft shell is a homely nut beside the others. As for die-back, Mr. Gillet's reasoning is sound as to the effect of standing water too near the surface, and the treatment he describes is rational and may be very helpful to some of our readers who have to deal with such conditions. But die-back may also result from root injury by drouth, and from what we know of some lands in northern Santa Barbara county we should believe that the thrifty trees were those which succeeded in getting deeper rooting or found a moister spot in which to grow. But either condition is to be learned by digging, as Mr. Gillet says.—Ed.]

THE JORDAN ALMOND.

In the issue of the Pacific Rural Press of Sept. 23rd I read a query from Woodland in regard to the Jordan almond—whether any such almonds had been raised in California, in what locality and if young trees or proper shoots for grafting could be purchased. The answer given to the above was that it was not known that any such variety of almond had ever been grown in California, and that it was not possible at the present time to get trace of such a kind from our nurserymen. The writer of the above was certainly mistaken, for I have raised Jordan or Jourdain or Provence almonds the last ten years, having advertised that variety of almond in my catalogues the last eight years, but mostly under the name of Provence; Jordan, you well know, is the English name for Jourdain. I described that variety of almonds as follows in my last catalogue:

"Provence or Jordan: This nut is very flat, half hard, half soft, the kind used in the manufacture of sugared almonds. By gently striking the nut on the suture with a small hammer, the shell splits in two, letting out the kernel entire.

The Jordan or Provence almond is very distinct from any other variety. The tree grows upright and does not spread out as much as Paper Shell and Languedoc varieties; it blooms early — that is, after Paper Shell kinds, but before Languedocs. The leaves are of a bluish green and very distinct from all other varieties grown by me. For the last five years I have hardly raised any almonds but Grosse Tendre, a late kind, the frost in March having repeatedly killed my whole crop; I am able, however, to send you a sample of that variety raised on my trees several years ago. That almond is sought after only by confectioners, on account of its being so slender and so well adapted to the manufacture of sugared almonds; otherwise it is in no way superior in quality to that of our other kinds. Most of the trees I sold of that kind went to Colorado, an Oregonian having planted over there—in the Grand valley—an orchard of 2000 almond trees of all sorts some four years ago. Felix Gillet.

Nevada City.

[We shall keep the samples of walnuts and almonds for reference and comparison. We are glad of this explicit statement on the Jordan almond.—Ed.]

Freaky Trees and Subsoiling.

A writer for the Los Angeles *Times* gives two items suggested by communing with southern orchardists:

Unseasonable Blooming.—Orchardists are troubled in some localities every dry season with the accidental or delayed blooming of their orange trees. The percentage of trees affected this year is very small, but in one orchard in the row next the highway there were found many specimens in full bloom. The cause is usually individual tree conditions, result of gopher work, dust or disease. As delayed blooming affects two crops of fruit, the matter is of considerable interest. An up-to date grower being asked how he treated trees in that condition said: "Stay with 'em. Trees in good health are often unable to mature their bloom in April when water is scarce, or from local cause it does not reach the roots, and the blossoms are liable to appear any time during the summer or fall. When individual trees in my orchard get in that fix I give each one special care. By extra irrigation, fertilization and cultivation only one crop need be lost. If left to the care needed by the regular bloomers the habit may become fixed with these sports and several crops be forfeited."

How to Treat the Trees —Extra care and late irrigation will usually put a fine winter's growth of wood and bloom spurs upon them, and next April find them in a normal condition again. My informant charges a great deal of this trouble to dusty roadways and in some cases to lack of fumigation, but he has never failed to bring a tree back to regular blooming again unless the cause is from disease. Water often fails to reach the roots, no matter how copiously applied, from hardpan or other conditions of the soil. Very often this causes adventitious blooming. Fortunately my rounds revealed a remedy for hardpan that is being applied here with success.

A Hardpan Breaker.—On one ranch was found a subsoil plow running, drawn by six large mules and controlled by two men. The business part of the plow is a steel shank 20 inches long and made sharp like a knife colter, and fastened firmly at the upper end into a large wooden beam. The lower end of the shank is mortised into a steel ingot about 2 feet long, flat on the bottom, cigar-shaped on top, with a chisel-shaped point and 6 or 8 inches wide throughout its length. It runs horizontally under the ground like the bar of an ordinary plow, only 16 or 18 inches above the surface, making no more indication of what is going on below than a submarine boat, the only evidence of its use being a small mark left by the shank. The implement is run twice between rows each way, and as the trees are planted quincunical it is run diagonallly, thus breaking up the hardpan under the entire space not occupied by the larger tree roots. Irrigation follows and the water penetrates freely to the lower feeders. It is a success and has solved the problem of dry year hardpanning. There is no patent on this subsoil implement, and it may be made by any good blacksmith. It is the most effective plow for rendering irrigation easy and thorough, and by the use of a little judgment it is harmless to the roots of the trees.

SHEEP AND WOOL.

Methods of a Mutton-Maker.

Mr. H. M. Kirkpatrick, of Wyandotte county, Kansas, a successful grower of mutton sheep, in an article requested by Secretary F. D. Coburn, of the Kansas Board of Agriculture, and published in "The Modern Sheep," makes some suggestions that should prove practically helpful to those engaged in the same line of business, as to their care, etc. He says in part:

Sheep require no expensive shelter; a dry place and protection from the force of storms, an open shed with a roof that will turn the rain, is all that is required. Nature has provided the covering for their bodies that protects from wind and cold. Sheep will not lie down in mud, and no matter how warm and commodious your barn, unless clean and dry, they will seek a knoll or dry spot of earth, no matter how fierce the storm. So, when we say a dry place for them to stand or lie down, as nature suggests, that covers the requirements for shelter. Confining them to inclosures is less difficult than is generally supposed. I never knew a sheep to attempt jumping a barbed wire. It is a common mistake to build fences too high, and not low or close enough. I believe a flock of sheep that have never been taught to climb or creep can be successfully restrained with four barbed wires, properly strung and kept taut. Their wool is such a protection to them against the viciousness of the barbs that when taught to creep the building of impregnable fences becomes a necessity.

While sheep require but inexpensive winter quarters, their protection from the heat and flies of summer is a matter of greater importance. This opinion may not be generally held, but I consider a cool shade, a cool, dark place for them in summer, of more value than the most expensive barn. If you have a thicket of brush or wooded spot, especially if welly dralned, save it—if you contemplate ever raising sheep.

The price of one good ewe in 200 will buy bells enough to amply protect that many ewes from the depredations of both dogs and wolves. Up to four years ago we had more or less trouble every year from both dogs and wolves, notwithstanding we live within the shades of the smoke of a great city. We belled 50% of our ewes, later 75%, and have never known of any loss or an attempted attack.

Stagnant water is the best vehicle for conveying the parasites that infest the sheep. If you have not an abundant supply of clear, pure water, easy of access for sheep, we hasten to advice you not to attempt sheep raising.

Low, marshy or spouty land is an abomination to the flockmaster; but Kansas is so free from this character of land that the caution seems uncalled for. But the ponds—the ponds sometimes called artificial lakes, but, rather, artificial cesspools—drain them, drain them dry.

You have heard that sheep are great scavengers; that they will rid your farm of weeds—and you probably have an abundance of this sort of feed. They are great scavengers, and will clear your farm of weeds if you give them time and opportunity, but they will not thrive and increase twofold and pay your grocery bills four times a year on weeds, barbs and fence corners.

Sheep, as well as other live stock, love a greater variety of feed than they usually get; but sheep especially are fond of change and variety, even unto apparent fickleness. They adapt themselves quickly to a change of conditions, and no matter how luxuriant the pasture, they will leave it daily and frequently to nip the sprouts and eat the weeds; in fact, I have sometimes thought that the more good grass they eat the more noxious and bitter weeds they will consume. Thus, by changing them to different fields, by turning them, especially the lambs, into the corn fields after you have laid them by, or into the clearing when the sprouts are young and tender, they will thrive and wax fat; and, unless the size of your farm is greatly in excess of the size of your flock, two blades of grass will grow where one grew before, and you will have to mark the price of your land up in order to keep it. The profits will be, or should be, 100%, with a fighting chance for more. The fleece always has paid, and will now more than pay, the cost of keep.

THE FIELD.

Bald Eagle Ranch, Modesto, Cal.

Written for the PACIFIC RURAL PRESS.

In the hundreds of square miles of territory embraced within the limits of Stanislaus county there is not a better illustration of the natural advantages of soil and climate than is to be seen at the Bald Eagle Ranch, five and one half miles due north of the city of Modesto. This magnificent property stands forth as a living refutation of the idea that these great plains are adapted only to the culture of wheat and that this crop is dependent entirely upon the rainfall which may or may not bless an almost rainless region. Here are fig trees, vines and a multiplicity of plant forms, which make the place seem a veritable oasis in a desert, with the entire surrounding country brown and sere after a gathered harvest. The soil is no better than that upon the broad acres which surround it on every side; the climate is also the same. The only difference is that at the Bald Eagle Ranch provision has been made for a never-failing supply of water and the earth is made to blossom as a rose.



RESIDENCE AND PACKING HOUSE, BALD EAGLE RANCH.

Bald Eagle Ranch is the property of O. McHenry, who received it as a portion of the estate of Robert McHenry, his father, one of the early grain growers of this locality. Much grain is still grown upon the ranch; but the present owner, firm in the faith that fruit could be produced in this locality, and impatient of the delays that attend the operations of irrigation districts, took steps for an independent water supply. He sunk deep wells into the water-impregnated strata beneath his ranch. He now has eight of these wells. By the use of a powerful steam pump he elevates all the water needed to irrigate the 320 acres of fruit trees now cultivated on the home place. In the eight years that he has been drawing water from these wells there has never been an indication of failure in the supply. He pumps the water when his trees need it, and they are perfection in points of vigor and ability to yield.

As the years have come and gone, the establishment at Bald Eagle has grown and expanded. Mr. McHenry has here at present one of the largest fruit-drying plants in the State. He dries not only the product of this ranch, but the product which he buys from other places. Fully 500 acres are now gleaned of their fruit for the annual pack at Bald Eagle, which amounts to forty carloads per year. The packing house is a structure 400 feet long, two stories high, filled with the most approved appliances for caring for the fruit. The motive power is steam, derived from two large boilers capable of developing 125 H. P. There are an engine and two centrifugal pumps capable of throwing 3000 gallons per minute. There are prune and fig graders, a raisin seeder, a raisin stemmer, mills for grinding feed, saws for making boxes, printing press for stamping boxes and a quantity of other machinery. In the height of the season at least 150 employes are given work around the ranch, in the packing room and office. Thirty telephones are in use and there are twenty-seven miles of private wire. During the visit of our correspondent all hands were busy in curing and packing raisins, figs and prunes, which Mr. McHenry sells under his own "Bald Eagle" brands.

The stock interests of the ranch are extensive. Upon the 8000 acres controlled by Mr. McHenry there are kept 500 head of cattle, 2000 sheep, 1000 hogs and quantities of poultry. Three foremen, besides the very competent superintendent—J. M. Heron—are required to supervise the varied interests of the institution. An immense barn, 200x70 feet in dimensions, accommodates the 112 head of mules and horses used as work animals. A separate structure accommodates the stock, which is constantly being fattened for market. Besides supplying at wholesale the butchers of Modesto, Bald Eagle Ranch runs several meat wagons into the country. Large quantities of ham and bacon are put up at the packing house each season and this product also finds ready sale.

The stock is fed systematically and scientifically. Besides ground feed for the fattening animals, straw and alfalfa are chopped together and stowed away in the lofts of the barns. Automatic carriers drop this chopped feed at any place desired in the loft. It is eaten by the stock with very little waste.

Altogether, Bald Eagle Ranch is an interesting property. It shows what may be expected of Stanislaus county when the irrigation schemes now in process of evolution become active factors in the productiveness of the soil. Mr. McHenry is entitled to the thanks of the people for demonstrating in advance what may be counted upon with certainty. The element of doubt as to the future of this great region has been removed. Instead of being exclusively a grain-growing section, it will become with the advent of water for irrigation purposes one of the most productive and fertile counties in the entire State.



BIRD'S-EYE VIEW OF BALD EAGLE RANCH OF O. McHENRY, 2660 ACRES, STANISLAUS COUNTY.

THE POULTRY YARD.

The Local Poultry Business.

TO THE EDITOR:—The present season has, so far, been a profitable one for those who have had good or even fair-sized flocks of poultry, if they are of the best laying breeds. Not of late years have such excellent prices for fresh eggs been so long sustained. Feed has been cheap and expenses at the lowest, therefore the raising of good egg-producing varieties of fowls has received quite an impetus.

Could present prices be assured for year after year one could safely guarantee himself of a profitable investment in poultry. Certainly the demand is not likely to diminish and prices will be well sustained for some time to come.

All this is the case, notwithstanding that enormous quantities of poultry and eggs are imported into this State continually from points eastward. Eggs from abroad sell at lower prices than those we produce, but the poultry rates higher, as for all they are shipped from points as far distant as Nebraska, they arrive here in better condition than poultry we are in the habit of sending to market.

A Chicago poultry dealer, who has made a careful study of the question, states that the production of chickens in the United States last year reached 3,350,000,000 and of eggs 13,000,000,000; total value, $290,000,000. It would be interesting to know the value of the poultry and egg production of this State and also of the importations.

About Hatching.—Rapidly another season is drawing near and the forehanded poultry keeper is making plans for mating his breeders and for raising chickens. How early this may be profitably done is a question about which there is some difference of opinion. It may be safely accepted that best results accrue from early hatches, providing that all things are propitious. In our climate the hardiest chicks, if fowls are well mated, are those hatched between December and May, not later than the first of June.

It is well that fowls, before being mated, are well through the moult and are in prime condition. The strain of moulting on the system is so great that chicks from eggs hatched at this time have not the stamina, the vigor and robustness they should have. Better wait a month or more if your hens are tardily moulting.

It may be accepted, also, that the hardiest chicks are those hatched from eggs laid by two-year-old hens. Let the cock be of the same age also. Chicks so raised give far more satisfactory results than those hatched from pullets mated with young males.

But this is not always done and there may be those who are of a different opinion. Theory may be seemingly perfect, but practice demonstrates different results. Every breeder of stock of whatever kind knows that the progeny of well matured animals are the best. Why should not the same rule or law apply to the raising of poultry?

Napa, Oct. 9, 1899. A. WARREN ROBINSON.

THE VINEYARD.

The California Seeded Raisin.

It is likely that a considerable part of the raisin product of California will ere long go to the cook without seeds. The *California Vineyardist* of Fresno gives an interesting outline of the process by which this product is secured, and credits Colonel William Forsyth as the inventor of the seeded raisin process and pioneer in this State in the business of seeding raisins. Unlike the eastern imitation, the California raisin is subjected to a dry temperature of 140° Fahrenheit, and from three to five hours, immediately after which the fruit is submitted to a chilling process, and while in this reduced condition of temperature, is passed through cleaning or "brushing" machines which remove absolutely every particle of dust and the cap-stems, thus making it a pure and wholesome article. It is then taken automatically, by elevators, to a room where, spread upon wire trays, it is exposed to a temperature of 130° Fahrenheit, which brings the fruit back to its normal condition; and in this "processing" the berry is converted into pectin, that delicious jelly which gives to fruits their best flavor.

The raisins having been prepared, through this alternate heating and chilling, to keep indefinitely and resist climatic influence, are passed through seeding machines, each of which has a capacity of from ten to twelve tons daily. The raisins are pressed between rubber or similar surfaced rollers, which at first flatten the berry and press the seeds into the surface, when an impaling roller catches the seeds between its needles or teeth affixed to its periphery, deftly removing them from the flesh of the fruit, while the latter passes on, minus its seeds but possessing every particle of its flesh. The seeds are removed from the roller by a "flicking" or whisping device, and are sent along to the seed receptacle, finally ending their journey in the engine room, where they are burned as fuel.

The raisins now devoid of their seeds pass through chutes to the packing tables, where they are weighed and packed into one pound cartons of attractive design and convenient size. These cartons are then placed in boxes which contain thirty-six and in this form are shipped to the jobber.

Raisin seeding has been practiced in the East for a number of years, with indifferent success as a business and a commercial failure as to the product. Not until Colonel Forsyth invented the "processing" of the raisin, as described above, could raisin seeding be called a success. This innovation completely revolutionized the raisin industry. The inventor may well be called the pioneer of the California seeded raisin, for when he started a seeding plant in

1896 he had difficulty in disposing of twenty-one carloads. So rapidly has the industry grown, and so great has been the demand for this delicious and cleanly article, that 450 carloads, of ten tons each, or 9,000,000 pounds of seeded raisins, were shipped from the Fresno district last year, and a very much larger tonnage will be turned out this year.

Some estimate can be formed of the enormous possibilities of Fresno seeded raisin plants when it is stated that their aggregate capacity for this season will approximate from 1700 to 2000 carloads, while it is probable that 1400 cars will be the output. Each seeding plant has from five to twelve machines, of ten tons daily capacity per machine. Some of the packing houses cover a ground space of 150x325 feet and are three stories high.

A Long Distance Demonstration.—When Colonel Forsyth was in England last year he endeavored to place orders for seeded raisins, asking dried fruit dealers in London to allow him to seed for them. They had no faith in the seeded raisin, because seeding, or "stoning," as it is called there, had been tried without success in Liverpool. The Colonel argued to no purpose, except to prevail upon one large jobber to ship some of the foreign Valencias to his packing house at Fresno. These Valencias were shipped a distance of 6000 miles to Fresno, "processed" and packed, kept nearly a year and returned to London, thereby making a transit of 12,000 miles. The jobber was so pleased with the product that he is now negotiating to handle these raisins. Several of the Eastern jobbers who have heretofore operated seeding plants away from the vineyard area have abandoned the work and are booking orders for the California seeded raisin, which never candies, rather than to attempt to seed their own stock.

THE IRRIGATOR.

The Influence of Forests Upon Storage Reservoirs.

By JAMES D. SCHUYLER at the Convention of American Forestry Association, Los Angeles.

In an arid region where irrigation is a necessity and where the streams are intermittent in their flow, ranging in discharge from violent floods to trickling rivulets, storage reservoirs are essential for any considerable extension of the irrigated area.

Sites for reservoirs of large capacity are scarce, where all conditions are right for the construction of safe dams, for the certain filling of the reservoirs, and for the convenient distribution of the water to lands suitable for its use. The scarcity of such sites renders it all the more essential that those which exist should be guarded from all influences tending to the destruction of their usefulness.

The mountain slopes of southern California are more than ordinarily precipitous, and the denudation of these steep slopes of their forest growth by destructive fires, or by equally destructive bands of sheep, tends to loosen the surface soil and render it easily eroded, so that as the vegetation of the mountains disappears, the streams become more torrential, and more heavily laden with debris. All this gravel, sand and soil is deposited in the beds of the reservoirs located in their path. The result is to fill the space which should be devoted to the storage of water and lessen its capacity. The rapidity of this destruction of the reservoirs will depend somewhat upon their location; if they are in the mountains and have large watersheds of steep slopes they will more rapidly fill with coarse material. If they are nearer the plains on flatter slopes they will receive sand rolled along the bottom of the stream at the upper ends, and fine mud over the remainder of the area. Under these conditions they will fill less rapidly. The Sweetwater reservoir, near San Diego, is a type of the latter class, where conditions are most favorable. Recent measurements have shown that the deposit in the reservoir during the eleven years of its existence has been about 5% of its total capacity. The filling has been almost directly as the depth of the water, being greatest at the dam, where the fine mud is 2 to 2½ feet deep, largely from the washings of the plowed fields. Were this reservoir higher in the mountains the filling would be coarser and of greater volume, and if the reservoir were smaller it would of course fill more rapidly.

Clear Water.—Streams should always run clear, or nearly so, and their volume should be uniform throughout the year. The more perfectly the watersheds are covered with forest growth, decayed leaves, brush, chaparral and hardy grasses, the more nearly will this ideal condition of run-off be approached. The soil will be so bound with a network of roots that the rain and melted snow will pass off slowly without washing the surface, and the storage reservoirs receive a minimum of detritus and a maximum of water. This ideal condition, when perfectly attained, becomes in fact a substitute in large measure for storage reservoirs, and the soil itself of the mountain forests is converted into a great sponge, which constantly replenishes the springs and streams and keeps them in more uniform flow. Under such conditions, reservoirs could only be needed to store the water of the rainy season for use in the summer months, while the streams themselves would have higher irrigation duty in the dry seasons. A general extension of forest growth will make available many small reservoir sites that are now practically worthless because of the torrential nature of the streams, and their exposure to rapid destruction. The essential, therefore, for the preservation of storage reservoirs and the general increase of stream flow is to maintain as dense a growth of vegetation upon the mountains as possible, and so patrol the sources of our streams as to prevent forest fires.

Influence of Forests.—It is not well established that forests have any special influence in increasing the rainfall of a region, although the presumption is that they have a slight tendency in that direction. But it is conceded that they have a very decided influence upon the temperature. In southern California, we particularly need all such influences to counteract the effect of desert winds upon our orchards, and lessen evaporation upon our reservoirs. The loss by evaporation in reservoirs, ranging as it does from 10% to 50% of their capacity annually, according to their relative depth and surface area exposed, is one of the most important factors in estimating the duty of stored water. No other losses can compare with it and anything which will lessen it will extend their usefulness. A general extension of the forests of the arid region must have marked effect in cooling the surrounding atmosphere, reducing the velocity and temperature of winds, increasing humidity, and lessening evaporation.

Reforesting.—One of the encouraging features of the situation on the Pacific slope is the rapidity with which all forest trees, except the redwood, are being reproduced wherever they are protected from fires and from the ravages of sheep. Young pines, firs and cedars spring up spontaneously where there is soil and moisture, and grow with vigor if let alone. This is a marked contrast to the sand plains of Wisconsin, Michigan and other eastern States, where the pine forests, once out, seldom reproduce themselves, but are replaced by brambles and worthless brush. With proper care, therefore, the Western forests can be made a constant source of revenue, continually replenished.

Government Reserves.—A popular misconception of the intent and object of the Government in segregating forest reserves at the headwaters of our streams, is that they are to be forever left in a virgin state, and so lost to public utility. This opinion is widely held, and needs to be eradicated, for the reverse is really true. The forests are not and should not be regarded as too immaculate for use. It is well recognized as far better and safer to make them a source of lumber and firewood, utilizing the older trees and encouraging new growth, than to allow them to go to maturity and decay untouched. The guardians of the forest preserves should be required to gather seeds of trees and plants and sow them wherever they can be induced to grow. They should keep the young groves of trees properly thinned out and have authority to sell sawlogs and firewood wherever the trees can be judiciously spared.

Fertility in Irrigation Water.—One of the important, though little considered, uses of the forest to the irrigator is the conversion of organic vegetable mold into nitrogenous plant food. This is going on through the agency of the ever-present bacteria, which reconvert the organic waste of the world into innocuous and useful mineral matter. Water, filtering through the soil, is constantly bearing these mineral nitrates into the streams and thence out upon the lands. Streams from treeless mountains lack these nitrogenous elements to a great degree, and the water has less fertility and is less valuable for irrigation.

Forest Destruction.—The effect of the destruction of forests in mountainous regions is eloquently described by the eminent French political economist, Blanqui, in a memoir read before the Academy of Moral and Political Science of France, in 1843. He says, in referring to the Alps of southern France:

"Signs of unparalleled destruction are visible in all the mountain zone, and the solitudes of those districts are assuming an indescribable character of sterility and desolation. The gradual destruction of the woods has in a thousand localities annihilated at once the springs and the fuel. The abuse of the right of pasturage and the felling of the woods have stripped the soil of all its grass and all its trees, and the scorching rays bake it to the consistency of porphyry. When moistened by the rain, as it has neither support or cohesion, it rolls down to the valleys, sometimes in floods, resembling black, yellow or reddish lava, sometimes in streams of pebbles, and even huge blocks of stone, which pour down with a frightful roar, and in their swift course exhibit the most convulsive movements. No tongue can give an adequate description of their devastations in one of those sudden floods which resemble in almost none of their phenomena the action of ordinary river water. They are no longer overflowing brooks, but real seas, tumbling down in cataracts and rolling before them blocks of stone, which are hurled forward by the shock of waves like balls shot out by the explosion of gunpowder. A furious wind precedes the rushing water and announces its approach. Then comes a violent eruption, followed by a flow of muddy waves, and after a few hours all returns to the dreary silence which at periods of rest marks these abodes of desolation."

French Forestry.—After years of agitation and discussion, the work of restoring the woods and of controlling the floods and destructive erosion of the torrents was undertaken by the French Government at enormous cost, but with gratifying results, wherever carried out. The improvements consisted (1) of the systematic planting of trees, grass and underbrush near the source of the streams, to prevent the sudden and rapid collection of rain and melted snow water. (2) The protection of the shores of the streams from undermining and their beds from erosion, by the erection of small dams of masonry, loose rock and brush, to diminish the grade and decrease the power of the water, to raise and widen the bed and to retain and store detritus. Many of these structures were made of green branches that were induced to take root and grow. (3) The terracing of the mountain slopes in a way to retard the run-off and guide the water into channels of light grade, where it could be conducted to the main streams without washing the soil. On one small watershed of less than 1000 acres the Government expended $125,000; but the benefits resulting immediately after completion were estimated at more than double that sum.

Other European Forestry Work.—The Austrian and Swiss Governments have done a great deal of this work to restore the mountain watersheds to their original condition before the forests were destroyed, and great numbers of masonry dams have been erected, to an extreme height in one case, in the gorge of Ferrina, Austrian Tyrol, of 115 feet. These are built exclusively for retaining debris and curbing the power of the torrents. The usual height of such structures, however, is about 25 feet, and they are placed as near to each other as the grade of the torrent necessitates. Their effect is incidentally to store water, as well as gravel, for the voids in gravel reservoirs of that kind retain a considerable volume of water, which is given off gradually to the stream. Such work can be done to advantage on every mountain stream in California, and I have no doubt that similar works will ultimately be undertaken in various parts of the arid West as a necessity, although it will require much agitation and united public opinion to secure appropriations from the general Government for such construction. The most important work in hand, however, is to take measures for preventing the further destruction of forest, and avoid the necessity for extensive correction of erosion in our mountain slopes and streams. This costs less than the subsequent correction and is more easily accomplished.

When this is well in hand, when we have adopted practical measures for recovering our denuded mountain areas with plant growth and for protecting the forests we have left, a persistent effort should be directed toward the bridling of our torrents and the conversion of every mountain canyon into storage reservoirs. In this way only will our water supply be sensibly augmented and a large portion of the wealth of water annually wasting into the ocean or sinking in the deserts be retarded and retained for useful ends.

THE APIARY.

Bee Inspection in Tulare County.

Josiah Gregg, bee inspector for Tulare county, in his last report to the supervisors gave information of wide interest. He was appointed for twenty-five days and this is his summary of work for fifteen days in March and ten days in September. In March he found and destroyed, according to law, three cases of foul brood. In September he reports as follows: I have inspected all the apiaries that were known to have foul brood at any time, and all bees within a radius of two miles of all infected apiaries, and have failed to find a single case of foul brood; and I have reason to believe that the disease of foul brood has been entirely eliminated from the county of Tulare. During my last term of ten days I have inspected 1182 colonies, an average of about 118 per day.

I find by a review of all my reports for three years that in the year 1897 I caused to be destroyed twenty-eight cases of foul brood; in the year 1898 sixteen cases, and in the year 1899 three cases, a total for my administration of three years of forty-seven cases of foul brood.

Apiculture is fast assuming an enviable position among the most prominent industries of the county of Tulare. In the year 1898 five carloads were shipped from the county, and during 1899 ten carloads will be shipped, being about 130 tons, all extracted honey. There has been but little comb honey produced, probably enough to supply the local markets.

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CALIFORNIA.

Alameda.

NEW DRIER.—Niles *Herald*, Oct. 13. E. A. Ellsworth has closed a contract for the construction of what will be the largest drier in the county. It will be fitted out with all of the latest improved machinery for handling prunes and almonds, as well as all other fruits grown here. The capacity will be sufficient to handle the whole fruit crop of Washington township. Everything is to be put in shape this winter so as to be ready early next season.

Butte.

FRUIT NOTES.—Oroville *Register*, Oct. 12: Four carloads of dried peaches were shipped last week, and 2000 to 7000 pounds of dried figs go out nearly every day. Growers are getting 3½ cents delivered at the depot and are making money. As a result, the much abused fig tree is coming into commercial prominence and more of them will be planted this winter. Schnable & Skinner have again purchased the large orange crop of the Hearst orchards; and Porter Bros. Co., represented here by Ed Sanborn, have purchased the Chambers and other crops controlled by W. W. Gillett as superintendent. This disposes of two of the largest crops. Bates & Boait have a large yield this year, also O. D. Green, A. J. Frost, Palermo Nursery and Citrus Association. W. J. Grier also controls several important shipments, but as yet these shippers have not closed contracts. Palermo will probably send out 250 carloads of oranges this winter.

Colusa.

ROAD SPRINKLING PAYS.—Williams *Farmer*: Supervisor Wilson has begun in a systematic manner the sprinkling of the roads in his district. He recently purchased a sprinkling cart with pump and gasoline attachments and is boring wells at regular intervals along the public highways. The sprinkling wagon holds 1200 gallons of water and is drawn by four horses. The engine is a 2½ H. P. and is made fast to the wagon back of the tank. The pump is immediately under the engine and is connected with the well by means of a hose. The wells vary in depth, and are cased in 8-inch casing and securely capped. It requires twenty minutes to fill the huge tank from one of these wells, which, when once filled, will sprinkle the road for a distance of three-fifths of a mile. Supervisor Wilson says the operating expenses of one of these sprinkling wagons will not exceed $4 per day, and claims the undertaking practicable, as the saving in repair, made necessary each year by the cutting up of the unsprinkled roads, will more than offset the cost of sprinkling.

Contra Costa.

LAND LEASED FOR SUGAR BEETS.—Martinez *Gazette*, Oct. 14: The California & Hawaiian Sugar Refining Company of Crockett is securing control of a great deal of land. This week the company leased 2600 acres of the Naglee-Burke land on one of the islands near Stockton. It is said that over $18,000 will be paid for rental. The experiment of raising beets has been tried at several points on the island lands and the results have been very satisfactory, and the managers are looking for even better returns from the tract of land just secured than they had from the New Hope lands this year and a year ago. It is understood that the lands are leased for four years at an annual rental of $7 an acre. Other provisions in the lease call for the owners of the land to build a system of irrigation and drainage with ditches, floodgate and pumping plant, so it may be used in either way that is necessary. Another provision is that if the land floods in any year so that there is no crop obtained there shall be no rent collected. The land is so located that the product can be handled between the tract and the factory by water, saving a great deal in the expense of marketing.

Fresno.

ABUNDANT GRAPE YIELD.—Reedley *Exponent*, Oct. 12: From six acres of Sultana vines in the Dunn vineyard H. Thompson picked 84¾ tons of grapes, making an average of more than fourteen tons per acre.

PROFITABLE BEE CULTURE.—*Republican*: As an indication of what a profitable industry bee keeping is, the experience of L. Epperson of Central Colony may be given. Mr. Epperson has a forty-acre ranch of alfalfa, from which last year he sold $900 worth of hay. He has 256 stands of bees, which were valued three months ago at $600. He sold recently his crop of thirteen tons and twenty-two pounds extracted honey at 6¼ cents a pound, or $1626 37. He also sold 1800 pounds of comb at 8⅜ cents a pound and 211 pounds of beeswax, at 25 cents a pound, for $217. Thus, with a capital of $600 and less than three months' work, the owner has made $1843.37.

LATE PRUNING INSURES HEAVIER CROPS.—Sanger *Herald*, Oct. 7: C. P. Walton says he has learned by experience that late pruning insures heavier crops of grapes and better quality than can be obtained by early pruning. In February last he pruned his ten-acre vineyard after the heaviest frosts were over, as an experiment, and the result shows that he made no mistake in pruning so late in the spring. This year he picked 3000 trays of first-crop grapes and five tons of second-crop, as against about half that quantity last year, when the vines were pruned in December and the buds were severely injured by frost before spring. Mr. Walton is convinced that the vineyards of this county should not be pruned before the middle of February, especially on dry, sandy soil, and advises all vineyardists to try the experiment of late pruning next season.

POULTRY SHOW.—*Republican*, Oct. 12: The executive committee of the Fresno Poultry Association have completed the catalogue and premium list for the show which will be held in this city November 21st to 24th. It will be the most complete catalogue yet gotten out by the association. There are a greater number of cash and special prizes offered this year than ever before, and every class will receive liberal prizes. A large number of entries are expected from Los Angeles, Oakland, San Jose, Sacramento, Stockton, Porterville, Madera, Merced, Kingsburg and all parts of Fresno county. The show will be free to the public and it is expected that fully 10,000 people will visit it during the four days it will be in progress. J. B. Ure, R. J. Venn, G. R. Andrews and Harry Torley have had the preparation of the catalogue in charge and deserve much credit for the work accomplished. Several new names have been added to the membership in the last month and the association is in a flourishing condition.

Los Angeles.

FARMERS' CLUB ELECTS OFFICERS.—Pomona *Progress*, Oct. 12: At the annual meeting of the Pomona Farmers' Club John Wasson was re-elected president, J. W. Mills secretary, Mrs. E. P. Cooley treasurer, and C. B. Messenger vice-president. Mr. Messenger had prepared a paper on good roads, but it was not read on account of so few being present. The next meeting will be held on Monday, November 13th.

DIRECTORS AND OFFICERS ELECTED.—Pomona *Times*, Oct. 11: At the annual meeting of the stockholders of the San Antonio Fruit Exchange Messrs. M. C. Allen, A. H. Hebbard, S. W. Arbuthnot, J. R. Moles, George F. Ferris, D C Teague, A. T. Currier and W. A. Johnstone were elected directors for the coming year. The board organized by electing M. C. Allen president, D. C. Teague vice-president, S. W. Arbuthnot treasurer and P. J. Dreher secretary and manager and representative to the Southern California Fruit Exchange.

MORE PACKING HOUSES.—Pomona *Times*, Oct. 13: Fruit production is rapidly increasing. A few years ago there was not one packing house in Pomona. Now there are five, not including the cannery, three of which are very large. That of the Pomona Fruit Growers' Exchange has just been enlarged; that of the Claremont Citrus Union is being enlarged; the Fay Fruit Company is building a large one at North Pomona; Mr. L. M. Sparks has arranged to build one at Lordsburg, and one is to be built between Pomona and Ontario. C. K. Short's packing house is to be enlarged to about double its present capacity.

Monterey.

SUCCESS WITH SUGAR BEETS.—Dispatch from Monterey, Oct. 13: The ranchers of Carmel valley, between this place and Salinas, began raising sugar beets for the first time this year, and their experiment has been so successful that many of them intend engaging in beet culture on a large scale. During the past week several carloads of beets have been shipped from this valley to the Spreckels sugar factory at Salinas.

APPLE CROP ENORMOUS AND HOP CROP LARGE.—Dispatch from Salinas, Oct. 17: Fruit packers in this vicinity are much worried over their inability to get a sufficient number of pickers. All orchardists have been working shorthanded this season. Although white labor has been given preference, yet it is hard to procure. The apple crop of Salinas valley is enormous this year. The hop crop of Pajaro valley has been an unusually large one. When dried it will amount to almost 275 tons.

Napa.

WINE SHIPMENTS ACTIVE.—St. Helena *Star*: More activity in the shipment of wine has been seen in St. Helena and neighboring stations along the Napa Valley Railroad for the past month than for many years. This is partly due to the advance in freight rates.

PACKING ASSOCIATION INCORPORATED.—Anaheim *Gazette*, Oct. 12: Articles of incorporation of the Santiago Packing Company have been filed. The capital stock is $10,000, divided into 10,000 shares of the par value of $1 each. The stock subscribed is as follows: J. A. Scarrett, $114; W. S. Derby, $99; W. H. Burnham, $200; O. H. Leefeld, $111; J. A. Maag, $100; H. Hockmeyer, $53; H. A. Miller, $5; T. M. Flippen, $58; I. T. Aiken, $33; J. W. Oshorn, $50; J. E. Parker, $10; R. B. Guthrie, $122; D. F. Royer, $15. The object is to build a packing house.

Nevada.

SNOW ENDANGERS CATTLE.—Dispatch from Truckee, Oct. 13: Snow has fallen almost continuously for three days. No such storm has occurred in October since 1846, when the Donner party was snowbound at Donner lake. One of Truckee's principal interests is the pasturing of sheep and cattle during the summer months. All the stock and herds are still in the mountains, and the greatest consternation prevails lest all perish from hunger and exposure. Most of the snow melted as it fell, but there is a foot of snow at Truckee and from 2 to 4 feet in the surrounding mountains. The storm was a complete surprise, and the cattle are scattered all over the mountains. Some of the dairymen are hauling hay to their stock, but the supply is limited, and thousands of cattle and sheep must perish soon if the storm continues.

San Joaquin.

WOOL CLIP.—Stockton *Mail*, October 9: Twenty-eight thousand sheep have been sheared by Miller & Lux in this county during the last seven weeks. The wool yield was good and of very fair quality. The shearers were paid 5 cents a sheep, making the direct outlay for the labor about $1500. Much of the interests of the Miller & Lux corporation are now centered in this county, and next year its flocks and herds on the river bottoms will be largely increased, as the pasturage has been found very satisfactory.

San Bernardino.

SUGAR BEET HARVEST.—Chino *Champion*, Oct. 13: The Chino beet harvest was completed yesterday. The sugar percentage has kept well up and continues remarkably high for this late in the season. The work at the factory for the week ending yesterday morning was as follows:

	Tons sliced.	Per ct. sugar.	Bags sugar.
Thursday	707	17.6	2,278
Friday	789	17.9	2,090
Saturday	801	16.1	2,265
Sunday	377	19.3	1,623
Monday	729	18.4	2,005
Tuesday	634	17.5	1,035
Wednesday	789	15.7	2,700

The length of time the campaign will continue cannot yet be determined.

San Luis Obispo.

LARGE GRAIN CROP.—*Tribune*, Oct. 13: In what is the grain belt of this section (from San Simeon on the north to Lompoc, Santa Barbara county, on the south) there has been raised this year over 1,000,000 sacks of grain.

Santa Barbara.

MUSTARD CROP.—Lompoc *Record*: The buyers of mustard have so nearly cleaned up the crop that an accurate estimate of this year's yield is said to be 45,000 bags.

Santa Clara.

FREIGHT SHIPMENTS HEAVY.—Mountain View *Register*, Oct. 13: The freight shipments during September from Mountain View were:

	Pounds.
Wine and brandy	1,175,175
Hay	345,450
Green peaches	240,240
Other green fruit	24,055
Dried fruit	114,050
Miscellaneous	71,430
Total	1,970,400

The total for the corresponding month last year was 372,200 pounds, less than one-fifth as much as this year.

UNTIMELY BLOOMING OF PRUNE ORCHARDS.—San Jose *Mercury*, Oct. 11: Dr. H. T. Hite states that as a result of the forest fires near Wrights his prune orchard was damaged indirectly in a rather strange manner. He found that a number of prune trees have begun to bloom profusely. Small limbs completely covered with blossoms were found. It is thought that the unnatural and long-continued intense heat in the neighborhood has caused this untimely forming of buds and blossoms. In other orchards that were nearer the fire the phenomenon is even more pronounced. The orchard of James King is white with bloom and many blossoms are appearing on the prune trees in the orchards of W. H. Aiken and A. Finney. This state of affairs, it is said, will prevent the trees from bearing a crop at the usual time next year. If this is true it will be a serious indirect loss by the fire, especially as there was no crop of prunes in that section the past season.

FRUIT EVAPORATOR BURNED.—San Jose *Mercury*, Oct. 10: The fruit evaporator of S. R. Cushing, in the Willows, was burned last evening. The loss to the building was about $2200 and in fruit $150.

Santa Cruz.

SUGAR FACTORY DEEDED.—Dispatch from Santa Cruz, Oct. 13: The largest deed ever recorded in this county was filed to-day. It conveys the Watsonville Sugar Factory and beet lands from the Western Beet Sugar Co. to the Spreckels Sugar Co. The consideration is $874,000. Revenue stamps amounting to $8740 are on the deed.

APPLE BRUSHING.—Watsonville *Pajaronian*, Oct. 12: The apple brushing machine placed in M. N. Lettunich & Co.'s packing house is a great success. It is especially useful in cleaning apples grown by the roadside, or fruit which has been picked in the early morning before the fog has dried. We think the brushing machine is going to be a necessity in packing houses.

APPLE SHIPMENTS.—*Pajaronian*, Oct. 12: Twenty carloads of apples were shipped to Eastern points during the past week. Up to date this season 140 carloads have been shipped East from Watsonville depot. P. N. Lettunich will make a shipment this week direct to London of a carload of their Dewey brand of Newtown pippins. They will be of extra choice stock, carefully wrapped, packed in best quality boxes, and each package will bear the firm's Dewey label.

Sonoma.

PRUNE CROP.—Santa Rosa *Republican*, Oct. 9: Mr. E. C. Merritt states that the prune crop this year is not half as large as that of last year. However, the fruit is much larger and finer than ever before, and the percentage of sugar was never so large. Most of the prunes graded by the Merritt Co. run 50s to 60s.

HOP BALING RECORD.—*Republican*, Oct. 9: So far as known, the hop-baling record for the season was broken on the McCutchan ranch a few days ago. Four men baled ninety-two bales of hops in ten hours. The bales weighed from 195 to 220 pounds each. The best hour's work was thirteen bales. The crop from their ranch of thirty-six acres will reach 300 bales. During the picking season the best record on the ranch was made by Mrs. Mabel Ward, who picked 300 pounds of hops by 4 o'clock P. M.

GOOD HARVEST.—Santa Rosa *Press-Democrat*, Oct. 14: Adolph Metzger, foreman of the Waller ranch and Madrone hop yards near Forestville, has been very busy this season. With an average of twenty men he has harvested a large and miscellaneous crop, consisting of 2000 sacks of potatoes, 11,000 sacks of grain, 400 tons of hay, 2000 bales of hops and 50 tons of corn. The immense hop warehouse, which is 120x60 feet, and receives the output of eight large kilns, is now the scene of great activity. A crew of five men are now at work baling the hops. They work eight and one-half hours and put out an average of eighty bales a day. The hop crop this year is larger and of better quality than ever before. About thirty additional acres are to be poled this fall.

GRAPE CROP.—Santa Rosa *Republican*, Oct. 16: This season has been a good one for grapes only because the vineyardists have been receiving good prices. The grape and prune crops are the only crops that were short in Sonoma county. All others were up to the usual mark and many of them are way above the average. The increase in the price will make up for the shortness of the crop. The short crop of grapes makes a diminished crush at most of the local wineries. The rain did considerable damage to all soft-skinned grapes. Zinfandel will be the heaviest sufferer. The vineyardists have picked three-fourths of their grapes, first crop, and for this reason the damage done by the rain will be comparatively light. All grapes have been of especially fine quality this season. The percentage of sugar has not been so large for some years.

Tulare.

HONEY CROP.—*Register*, Oct. 13th: The honey crop is nearly completed, only a small amount will be made from now on. An average crop has been gathered for the season.

Yolo.

CREAMERY MEETING.—Woodland *Mail*, Oct. 13th: At the regular monthly meeting of the directors of the Woodland creamery the routine business was transacted. There is ready for distribution on the 15th inst. the sum of $3329 00. The directors recognize in their butter maker, Warren Meyers, a very efficient employee and increased his salary $15 per month. The creamery is in a prosperous condition.

PRUNE CROP.—Dixon *Tribune*, Oct. 13th: The prune crop at Winters is beginning to come in. The peach crop is by no means disposed of yet. The past week has witnessed the shipment of two carloads of dried prunes and three carloads of dried peaches. Of the latter one car contained 1179 twenty-five pound boxes of fancy Muirs; its destination is Bremen, Germany. Prunes of the best quality run from fifty-eight to seventy per pound; others from seventy to eighty-five.

OREGON.

PRUNE PROSPECTS.—Oregon *Agriculturist*, Oct. 15: Reports which have come in since the prune growers finished drying their crops show that on an average the output fell at least 20% below the amount expected when prune drying was commenced. The crop of the State will therefore not exceed 4,000,000 pounds, instead of reaching 5,000,000 pounds, as estimated earlier.

PRUNE TREES DYING.—Portland *Oregonian*, Oct. 12: Many prune trees around Dallas that have borne a crop of comparatively good prunes are now dead. The leaves are falling from these injured trees, while the sound ones are yet green. Nearly all the orchards in this vicinity will be compelled to replace 25% to 40% of trees killed or badly injured by last winter's freeze.

LARGE SALE OF WHEAT.—*Oregonian*, Oct. 12: The largest sale of Grand Ronde wheat for the season is that just made to Portland buyers by A. B. Conley, in which 60,000 bushels were disposed of. Mr. Conley has not yet made known the price, but says that the buyers came to his terms. Since it had already been announced that he held for 50 cents, it is supposed that he did not receive less. There was some disagreement as to qualities of wheat to be included in the sale, the buyers refusing at first to pay the same for the Montana red as for the bluestem, or fortyfold, but the entire lot finally went at one price, that being the only way in which Mr. Conley would sell. He would not have sold at all but for the fact that it was necessary to make room for the crop now being threshed. He finds that it will be necessary to dispose of 10,000 to 20,000 bushels more, as the yield has been greater than he expected. He will hold 60,000 bushels, the capacity of the warehouse, for the spring market.

WASHINGTON.

HOP CROP.—Seattle *Times*, Oct. 9: Mr. James Power of Laconner, who has one of the largest hop yards in Washington, states that the market has not yet fairly opened. Dealers, as a rule, wish to have in hand complete statistics of the entire crop before purchasing. The crop in this State is short, amounting to 10% to 25%; but this is atoned for by the quality of the product. The shortage was caused by the bad weather during July and the early part of August. The principal hop counties in this State, named in the order of their production, are King, Pierce, the Chehalis country, Yakima, Skagit, Snohomish and Whatcom. From the best information obtainable the crop in this State will be about 35,000 bales.

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A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

Vanity and Pretense

In all the ways and walks of life,
Much vain pretense we find;
Men try to seem what they are not,
And think the world is blind
To their true merits, wealth and worth,
And yet this foolish sham
Deceives but him who would deceive,
And makes him less a man.

Beneath a thin veneer of sham,
Much ignorance doth hide,
And borrowed cash doth oft produce
Unwarrantable pride.
Some think by fashion's gilded garb
The truth may be obscured,
The patronage of rich and wise
Be thus to them assured.

To satisfy this outward show
Men live beyond their means,
Much happiness they sacrifice
For their ambitious dreams;
They make themselves the slaves of pride
For what the world may think,
And many thousands may be found
Who stand on ruin's brink.

The custom grows to run in debt,
Where incomes are too small,
Get credit when and how you can,
Rob Peter to pay Paul;
And it is no uncommon phase
Of this peculiar plan
To see a hundred-dollar suit
Worn by a dollar man.

Deception for a time may serve
To win esteem and friends,
And gratify the one whose rank
On such support depends;
But soon or late deceitful arts
No more their purpose serve,
The simple truth shines through the mask
Quite easy to observe.

Much better then 'twould be for men
To seem just what they are;
Let only their true selves be known,
Make truth their guiding star;
And as new talents they acquire,
Or added wealth obtain,
The world will not be slow to give
Due credit for this gain.

—J. R. Ruckstell.

Netting a Wild Engine.

It was lonely enough at the little Pineville railroad station, set down as it was like a box-trap in the heart of the woods. "Pineville was a good name for it," thought Arthur Severson, the young station master and telegraph operator. Great pine trees towered all about, their thick tops and spreading branches casting a solemn shade all day long over the two or three small buildings that represented the "railroad center" of this backwoods settlement. Yet considerable traffic came to the railroad company at the out-of-the-way station. During the fishing and hunting seasons it was a favorite point of departure for city sportsmen coming into the Maine woods. Hundreds of deer and scores of moose, accompanied by their owners, left the wilderness at that point every fall; and during the summer hardly a day passed that did not bring some party of picturesque trout fishermen there to meet their guides. During the winter large quantities of hemlock bark, for tanning purposes, were shipped from Pineville; and there were always piles of furs and pelts on the platform, awaiting the "next train out." Nevertheless, for the greater part of each day, Pineville was silent and deserted, save for the young telegraph operator, Arthur Severson, who had recently been sent there from Portland. It was the loneliness of the place that distressed him most. His work was light, as there were only four trains, freight and passenger, each day; and aside from the train despatcher's messages, he had very few telegrams to handle. But Arthur had been used to plenty of company, active employment, and wholesome excitement; and the utter quiet and lack of companionship at Pineville made him feel blue and homesick. He had not been at Pineville long however, before an event occurred that gave him more excitement in half an hour than he had known in all his previous experience in "railroading."

It was a hot summer afternoon and Arthur was sitting in his shirt sleeves on the station platform, about as lonesome and depressed a boy as could be found anywhere in the State of Maine, when suddenly he was brought to his feet by the sharp, distinct call of the train despatcher over the wire. He sprang to his instrument in the little office, and promptly answered the call. Then came this startling message:

Wild engine on line between Racquette and Pineville. Sidetrack No. 40, if possible, before collision. Repeat.

D. J. Collson, *Despatcher.*

Trembling with excitement, Arthur repeated the despatcher's message, and added,—he could scarcely tell why, for there was no distinct plan of action in his mind,—"Will try to stop wild engine."

Then he sprang out on the platform, gazed up and down the long, straight stretch of track that cut the forest in two like the blade of a knife. No. 40 was the down passenger train, and she was due at Pineville in fifteen minutes; but as yet there was no sign of her approach, not even the sound of her powerful chime whistle in the distance. Neither was there any sign, in the other direction, of the coming of the dreaded wild engine,—that terror of every railroad man's life. The woods were as still as death, save for the creaking of a few locusts about the buildings and the "a-ronk" of a big bullfrog in a ditch back of the station.

Yet, peaceful and reassuring as the silence was, Arthur Severson knew that somewhere down the track between Pineville and Racquette—a distance of fifteen miles—that terrible, uncontrolled monster, a wild engine, was rushing towards him with the speed of the wind.

His first impulse was to run and throw over the switch at the lower end of the siding, and derail the wild engine, if possible. Then he remembered his orders,—to sidetrack the passenger train, and let the wild engine go by. There would be no excuse for him, if he disobeyed these instructions upon his own responsibility, and the collision should take place after all, as it might if the passenger train should fail to pass the upper end of the siding in time. "Obey orders first!" thought Arthur, as he ran at the top of his speed to the upper end of the siding, and threw the switch over for the passenger train.

The sidetrack now belonged to No. 40, and was out of the problem as a factor in stopping the wild engine. Whatever the young telegraph operator might do to redeem his promise to the train despatcher must be done without its aid. This he thoroughly realized, as he dashed back to the station.

In circumstances of extreme exigency and peril the mind sometimes works as if inspired, suggestions coming to it with lightning rapidity from every object that catches the attention of the senses. As young Severson rushed to his post of duty, his eye fell upon a great heap of 2-inch rope, coil upon coil, piled on the station platform,—a consignment just received by the Moose Valley Lumber Company. Instantly a plan for stopping the wild engine formed itself in Arthur's mind, if he could only accomplish it in time. He would string those coils of tough rope across the track, from tree to tree, making a web or network of them, one behind another, and thus, perhaps, snare the plunging monster as a spider snares and binds a great green bottle-fly.

Oh for just ten minutes of precious time! Could he hope for them? Eagerly he sprang to the coils of rope, slashing off their fastenings with his knife, till every separate coil was loose. Then he ran breathlessly down the track, dragging the end of the topmost coil, as a fireman drags his hose. When the 200 foot rope lay free behind him he whipped the end in his hand about a monster pine, tied it firmly with a halter hitch, and then began weaving the rope from pine to pine across the track, encircling each tree with a double loop, so that the strands of his web would not draw. Back and forth he toiled with feverish haste, hope springing higher in his heart with every new mesh added to his net.

The first coil of rope was stretched and tied about the pines; and Arthur, tottering with weariness and heat, was dragging the second coil from the platform, when he heard the distant thunder of the approaching wild engine. Must his plan fail, after all? Would he be too late in weaving his web of ropes? If he could only stretch a few more strands across the track! Even if the first should snap like strings, they might check the locomotive's momentum, so that the last strands would hold it. Fiercely and determinedly the panting boy worked on. The mad clangor of the wild engine drew nearer and nearer, till the woods about him rang with the sound. But not one glance did he spare from his task to see how close the monster might be.

Just as he had looped and knotted the last foot of rope, with a hissing, roaring rush the wild engine plunged into the hempen net.

Snap! snap! snap! like rapid pistol shots, went the first few strands of rope, as they burst asunder before the mighty shoulders of the iron horse. Then the stubborn net began to tell on the strength of its captive, huge and powerful though the latter was. The sixth tough cable strained and creaked ere it broke, the seventh snapped, but not until it had almost thrown the iron horse back upon almost his haunches, and at the eighth the shining monster stopped, its driving wheels spinning madly round upon the rails, and the steam hissing shrilly from its valves, as in conscious spite.

Even before the engine had come to a standstill, Arthur Severson sprang for the step and clambered up into the cab. Then he threw over the great lever, and soothed the throbbing monster, till it lay quietly panting in the midst of its tangled net of ropes.

At that moment the passenger train came in sight far up the track. In a few mements it drew in upon the siding; and train men and passengers came crowding around the engine, where the pale and exhausted young telegraph operator sat, with his hand still on the lever. The story of the wonderful rescue of No. 40 was not long in reaching official ears; and in less than two weeks Arthur Severson found himself established in the train despatcher's office, filling an important position and drawing a liberal salary. He was not at all inclined to pose as a hero, however, but would modestly reply, when complimented upon his remarkable feast at Pineville,—

"Why, it was as easy as stringing mother's clothes line!"—James Buckham.

Food Value of Milk.

It is hardly necessary to explain the great food value of milk; that it is a complete food for growing children, as well as animals is a well known fact. It contains every ingredient necessary either for the growth or sustenance of the human body. Three and one-half quarts of new milk, costing 17½ cents, will supply the food requirements and daily wants of a full grown man. An equal supply of well balanced food would require in the form of beef, 3.6 pounds, if all the necessary food ingredients are to be supplied. This would cost in the neighborhood of fifty cents, if there was no waste in the meat. If bone and inedible parts are taken into account the cost would be considerably larger.

In spite of this advantage of milk over meat, both in cost and value, there are but few families in the country that do not skimp the milk supply to buy beef—being held fast in the laws of custom and prejudice that decide that beef must be more valuable than milk as one is a solid, the other a liquid. The fact is, however, that 3½ pounds of milk, costing (at 6 cents per quart) 10½ cents, is worth as much for food as one pound of boneless beef. And when we consider that at least 15% of beef is waste and useless for food, the economy of milk becomes still more apparent.

Little boy: "Isn't fathers queer?"
Auntie: "In way?"
Little Boy: "When a boy does anything for his pa he doesn't get anything, but if another man's boy does it he gets a penny."

A Day in October.

Through all the sweet, red, spicy fires of vine
And shrub, the sun drips light, like golden wine,
Steeping it slowly through the afternoon
Till topaz shades away in soft maroon,
And bloom of sunset pales, at even's close,
To the pink ashes of a crumbled rose.

This morning's amber dawn, from starlit gray,
Gave golden promise of a golden day.
And noon, half dreaming in the fragrant smoke
Of quivering blue, from Autumn camps awoke,
And smiling, as she crossed the glowing land,
Fulfilled the promise with a lavish hand.

The maple blushes with a dream of frost;
The breath of late-ripe grapes is caught and lost
In vagrant flavors that the winds untwist
From thatchy fringe of ricks and thistle mist,
And from the mellow earth itself, where shine
The gold-brown spicy needles of the pine.

One star, enkindled in a yellow bay
Of velvet, seals the record of a day—
One of the days God grants to us below,
Whose brimming happiness we scarcely know
Till night uncoils a flaming trail of stars
And bars his dusken gate with purple bars.

—Hattie Whitney in Truth.

Cure for Forgetfulness.

A successful business man said that there were two things which he learned when he was eighteen, and which were ever afterwards of great use to him, namely: "Never to lose anything, and never to forget anything. The story of this lesson is printed in the *Country Gentlemen.*

An old lawyer sent the young man with an important paper, giving him definite instructions what to do with it.

"But," inquired the young man, "suppose I should happen to lose it, what shall I do then?"

"You must not lose it," said the lawyer, frowning.

"I don't mean to," said the young man, "but suppose I should happen to?"

"But I say you must not happen to. I shall make no provision for such an occurrence. You must not lose it."

This put a new train of thought into the young man's mind, and he found that if he was determined to do a thing he could do it. He made such a provision against every contingency that he never lost anything.

He found this equally true about forgetting. If a certain matter of importance was to be remembered he pinned it down in his mind, fastened it there, and made it stay: He used to declare:

"When a man tells me that he forgot to do something, I tell him he might as well have said, 'I did not care enough about your business to take the trouble to think of it again.'"

"I once had an intelligent young man in my employ who deemed it sufficient excuse for having neglected an important task to say, 'I forgot.' I told him that would not answer; if he was sufficiently interested he would be careful to remember. It was because he did not care enough that he forgot. I drilled him with this truth.

"He worked for me three years, and during the last year of the three he was utterly changed in this respect. He did not forget a thing. His forgetting he found had been a lazy and careless habit of mind, and he cured it."

Beggar: Will you please give me sixpence, sir? I'm on my way home to die. Gentleman (handing him the money): I don't mind giving you sixpence for so worthy a purpose as this, but your breath smells horribly of whisky. Beggar: I know it does, sir; whisky's what's killing me.

Fairest of all, rarest of all,
Queen of the months of the year;
Bonny and bright, born to delight,
Royal October is here.
Yellow and red leaves overhead,
Forest and meadow ablaze;
Bow at her throne humbly and own
None is so worthy of praise.

The Stay-At-Home: "Was it hot in the Philippines?" The Soldier: "Hot! Why, actually, if you wanted your steak rare you had to keep it on ice until five minutes before dinner. Even then it would sometimes be scorched before you got through eating it."

Food Value of Cheese.

Without exception cheese is the most concentrated food known, states *Hoard's Dairyman*. Roughly speaking, it is composed of one-third water, one-third fat and one-third protein. The following table shows the composition of the digestible nutrients present in cheese and sirloin steak :

	Cheese.	*Sirloin Steak.*
Water	30.2	48.3
*Proten	28.3	15.0
*Fat	35.5	16.4
Waste	—	16.5

*Digestible nutrients.

It appears from the foregoing that cheese has only two-thirds as much water as the average beef, has twice as much protein (muscle-forming material) and about twice as much heat-producing material. The waste or inedible proportion in cheese is very small, being but a fraction of a per cent of the amount of food bought, whereas in beef it averages 20% waste, and may, in the cheaper portions, amount to as much as 50% or 60%.

If we take into account the edible part of meat alone, we find that a pound of cheese is equal to more than two pounds of meat, and in comparison with the meat as bought, where the waste must be considered, at least 20% more must be taken from the value of the meat.

At present prices, $1 worth of cheese is worth nearly $2.50 worth of beefsteak; and the man who finds it difficult to make both ends meet should, in the light of the above figures, endeavor to make the process easier by including cheese in the circle of his daily food.

By far the majority of consumers look upon cheese as an article to be used sparingly, and as an article of luxury rather than food. This idea comes partly from habit, partly from the quality of the article as found in too many cases, but perhaps from a want of knowledge of the methods of preparation in such a manner as to make it take the place of the more expensive meats, and thus appear on the table as the principle dish in place of its usual position of an appetizer at the end of the meal.

There are numberless ways and methods for the cooking of meats, and it is perhaps from its former abundance that meat has taken so prominent a place in our diet, leaving cheese (more valuable, yet not so well known) to a lower place in the list of foods. But with the advanced price of meat should come a greater attention to cheese as a valuable and cheap food, and also better and improved methods of manufacture, handling, and, more especially, of cooking in appetizing ways.

As a rule, the cook books give but little attention to the last question, contenting themselves with a few perfunctory allusions to cheese cooking, and yet the methods to be used are simple and the result is an excellent series of appetizing dishes. Williams, in his "Chemistry of Cookery," gives the following methods for cooking cheese: Take a quarter of a pound of grated cheese; add to it a gill of milk in which is dissolved one-fourth teaspoonful of cooking soda, with mustard, salt and pepper to taste. Heat the mixture carefully until the cheese is completely dissolved. Then beat up three eggs and add this to the solution of cheese, stirring well. Pour into a shallow, buttered dish and bake until nearly solid.

Take slices of bread and soak them in a batter made of eggs and milk; then place the slices of soaked bread in a dish and cover each slice with a thick coating of grated cheese. Add another layer of bread and one of cheese until the dish is full. Pour surplus batter over the top layer and bake in a slow oven. A small amount of cooking soda may be used, as in the first recipe.

It will be noticed that in both of these methods cooking soda is used. This is for the purpose of bringing the cheese into solution and mixing it evenly through the mass, thus preventing the formation of the tough, leathery curds which come from the heating of the cheese by itself. There is no doubt that if the average consumer could obtain good cheese and then have it placed before him in some appetizing dish, as above given, the consumption of this article of food would be greatly increased, both to the benefit of the consumer and the dairyman.

"What do you want?" sharply asked the lady of the house as a stranger walked around to the back door of the house.

"Nothing at all, ma'am," suavely replied the stranger, bowing. "I was put off a street car, and the conductor stood on the platform grinning at me, so I just walked into the nearest yard to make him think I had reached my destination."

DOMESTIC ECONOMY.

An Attractive Kitchen.

Housewifery should never be looked upon as drudgery; its foundation is excellence, and skilled housekeeping means much. Family life and happiness depend upon the home. The kitchen in every household, be it little or big, should be kept perfectly pleasant, made attractive and wholesome by regular cleaning. The happy faculty of cultivating the art of combining the useful and ornamental, making the homely duties attractive by surrounding them with pleasant devices, is a happy gift.

A cheery, bright little housewife bid me come right into her little kitchen and entertained me there, "for I have to watch my light bread," and I could not help but think what a treasure that husband had in his wife and what a mother the children had! The kitchen showed refinement and culture as plainly as the parlor or library showed by their surroundings its occupants' tastes. There was everything attractive regarding her homely work—pretty stove lifters, cushioned chairs, running vines in pots set upon brackets, a shelf for her cook books and memoranda, with pencil and pad fastened beside her favorite books which she read at intervals, pretty muslin curtains. It was healthy and wholesome-looking. She disliked some things regarding her every-day duties — the washing of cooking utensils—but she used porcelain ware and had mops and little brushes and used pearline and plenty of hot water. But one essential she told me of was to first soak all such in cold water instead of pouring scalding water in them to make them easier to wash, as so many do. She had a three-cornered cabinet made and two drawers in which she kept her tea towels—great stacks of them neatly hemmed and her initial worked on them. The unsightly things were put out of sight. I laughingly asked her where the "pots and skillets" were, as our southern kitchen with black mammy presiding always had so many of those. She pulled aside a cretonne curtain on a brass rod and displayed an array of neat ones.

It does not require wealth to attain this perfection of charm in a home, but it does take industry, mental endowments, plenty of brains, a willing heart and a desire to be a true homemaker. The wife must be a thoroughly feminine woman and a housekeeper as well as a homemaker. Such a woman is God's best gift to man. S. H. H.

The Proper Way to Wash Glasses.

In washing glasses the water cannot be too hot, and, no matter how frail they are, they will not break in the coldest weather, providing you manage rightly. Heat expands, cold contracts, and the unequal expansion of the inner and outer surfaces of your glass will cause a fracture. Thus, if you pour a hot liquid into a cold glass, the inner surface expands more rapidly than the outer; while if you set a cold glass in hot water the reverse takes place—breaking the vessel in either case. Therefore, dip your glasses into the water sidewise, and roll them around as you do so with a quick twist of the hand, so that the expansion is equal. Merely observe this simple law of physics, and you may wash your glasses with safety in the hottest water. Glasses cannot be clean unless washed in clean, hot water. Moreover, they should be wiped as soon as they are taken out of the water, using a clean, dry towel. If allowed to stand and drain, the water will dry on them in cloudy streaks. Glasses which have been used only for water need no soap; it is only necessary to rinse them in hot water.

Things Worth Remembering.

When peeling apples, drop them in cold water as they are done, and they will not turn brown.

A nice way to fry potatoes is to dip them in egg and then in bread crumbs, and fry until brown.

Cleaning windows with borax instead of ammonia or soap takes much less time than the ordinary way and is a success.

Next time you upset water on your kitchen table pour some cold water over it at once. This will prevent it from soaking into the wood.

Peas and beans are the most nutritious of vegetables, containing as much carbon as wheat, and double the amount of muscle-forming food.

Stockings mended with silk instead of the ordinary wool will not chafe tender feet. The silk should be almost as thick as buttonhole twist, and as it lasts a long time, it is not as extravagant as it sounds.

If you want your house plants, palms, etc., to look nice throughout the summer, you must give them special attention. Soak the pots for fifteen minutes in barely tepid water, letting the water come well up over the soil and barky stems. Cut away carefully all dead leaves, and bathe the foliage once a week with a sponge, using milk and water for palms, and water for ferns. After the first soaking, sprinkle half a teaspoonful of a good fertilizer on the soil, and over that put a layer of sand.

To Wash Colored Embroidery.

Teacloths, sideboard cloths, table-centers, night-dress satchets, etc., of white linen embroidered in colors are extremely pretty and very fashionable. Embroidery silk in delicate colors shows the work to better advantage than pure white, and if one will use the proper care in laundering them they will retain their beautiful coloring to the last.

Such articles should never be washed and boiled with the other white clothes, as that would ruin them in a short time. Heat the water until it is lukewarm, dissolve a little powdered borax in it, and enough soap to make a good suds. Wash them lightly between the hands. They should not be used long enough to become so badly soiled that hard rubbing is needed to get them clean. Borax is the best and safest article known to soften water, making very little rubbing necessary, and does not injure the most delicate colors, and for that reason a little borax should be added to the water in which any embroidered pieces or delicately tinted fabrics are washed. Rinse through two waters, adding a little boiled starch to the second, and enough blueing to tinge it a little. Very little starch is needed, for they should be made stiffer than new linen. Press the embroidery on the wrong side, then iron the remainder of the linen on the right side to give it the gloss it should have. This gives the embroidery a raised effect and makes it show plainer.

Combination night garments for restless children do not now have the foot and leg pieces entirely closed, as was formerly the case. For convenience in putting them on a fly-piece opens along the ankle and instep. This buttons over after adjustment, and in this way it is possible to use slippers with the garment, a desirable thing, as every mother knows.

Domestic Hints.

JELLY CAKE.—Stir together one cupful of sugar, one-half cupful of butter, three-fourths of a cupful of sweet milk, two beaten eggs, two cupfuls of flour, and two teaspoonfuls of baking powder. Bake in three layers, spread jelly between and put a frosting on top.

WHITE CREAM CAKE.—Stir together two cupfuls of white sugar, two tablespoonfuls of butter, one teacupful of sour cream, one teaspoonful of soda. When these are well mixed, stir in three cupfuls of flour. Last of all, add the well-beaten whites of eight eggs. Bake in shallow baking pans in a moderate oven.

COFFEE WITH EGG.—Mix one egg with one cup coffee, dilute with half a cup cold water, turn into a scalded coffee pot, pour on three pints fresh fresh boiling water, stir well, cover closely and boil five minutes. Cleanse the spout, add cold water, keep it hot, but not boiling, for ten minutes or until settled.

CHOCOLATE CREAMS.—Two cups of powdered sugar, nearly a cup of water. Boil about five minutes, then beat until it turns to cream, after which make into drops and dip them into the melted chocolate. Melt three-quarters of a cup of chocolate by scraping into a bowl and then placing the bowl either over the teakettle or into a pan of hot water.

OYSTER STUFFING.—Crumb a ten-cent loaf (without crust), soak the crumbs in enough milk and juice of a pint of oysters to make thoroughly moist; add the oysters whole, a quarter of a pound of butter, salt, a quarter teaspoonful pepper and two raw eggs. Cook half a pint of oysters in their own broth and serve on the platter with the turkey.

WILD GRAPE PRESERVES.—Take six pounds of green, unripe, wild grapes; cut them open on one side and carefully remove the seeds; then put them in a kettle of boiling water and cook one minute; pour the fruit in a sieve to drain. In the meantime put a preserving kettle with four pounds of sugar and one pint of water over the fire; boil a few minutes; add the grapes and cook ten minutes; fill into jars to overflowing; close tightly and set aside.

BATTER FRITTERS.—Put two cupfuls of flour into a bowl. Add to it one cupful of cold water, the yolks of three eggs, one tablespoonful of sugar, two tablespoonfuls of olive oil or melted butter, and one level teaspoonful of salt. Beat this mixture thoroughly, and add the whites of the three eggs, beaten stiff, and one level teaspoonful of baking powder. Have the lard smoking hot, and drop the batter into it by the spoonful. When brown, remove with a skimmer, drain on paper, and sift over them sugar and cinnamon mixed.

$18,000 in Cash *To be Given Away*

On the fifteenth of next April to all agents sending 20 or more subscribers to

The Ladies' Home Journal
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One thousand dollars to the agent sending the largest list—$750—$500—$400—and so on.

764 cash awards, together with the general fund of $3000, amounting to $18,000, will be given *in addition* to the agent's commission and the special rebates for large clubs.

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Profitable work all winter.

The Curtis Publishing Company, Philadelphia

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 18, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	72¼@73	76⅜@76⅛
Thursday	73⅛@72½	76⅛@75⅝
Friday	72⅝@72	75⅝@75⅛
Saturday	72⅜@72	75⅜@75⅛
Monday	71⅜@71¼	74½@74⅜
Tuesday	71 @70½	74½@74⅛

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	6s 1½d	6s 2¾d
Thursday	6s 1½d	6s 2¾d
Friday	6s 1½d	6s 2¾d
Saturday	6s 1⅝d	6s 3 d
Monday	6s 1 d	6s 2⅝d
Tuesday	6s 0 d	6s 1¼d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 13¾@1 13	1 18¾@1 18½
Friday	1 12⅞@1 12¾	1 18 @1 17¾
Saturday	1 12⅞@1 12¾	1 18 @1 17¾
Monday	1 11⅞@1 12⅜	1 17⅛@1 17½
Tuesday	1 11⅛@1 11¾	1 17 @1 17⅛
Wednesday	1 11¾@1 12½	1 17¼@1 17⅝

Wheat.

While values for spot wheat for export purposes have not declined materially since last review, the tendency of the market has been steadily against the selling interest. With no great pressure to realize, however, holders managed to prevent the market for actual wheat breaking to any great degree. The speculative markets in all centers were lower for wheat in all positions. On the local Call Board there was a decline for the week of about 2c for December wheat and 1¾c for May option. A tight money market in the East and in Europe, together with high freights and limited transportation facilities on this coast, combined for the time being to render the market unsatisfactory for the producer. At the close (Wednesday noon) there was a little better tone than for a day or two preceeding, options recovering fully half a cent.

The outward movement of wheat continues light from this port, and prospects at the moment are not favorable for the export trade in this cereal assuming very heavy proportions in the near future. Early in the season the scarcity of ships caused the demand on European account to be exceedingly sluggish. To make the movement in wheat still slower, barley was given the preference and commanded relatively better figures. More than twice as much barley as wheat has been cleared from this port thus far the current season, the shipments of barley since July footing up over 90,000 tons, including the movement overland by rail to New Orleans, thence by steamer to Europe. During the past few weeks there has been a better supply of ships, engaged and disengaged, but a stiff freight market is operating against the advantageous sale of wheat. Ship owners have not only put ocean freight rates on a much higher plane, relatively, than have been values for wheat at any time this season, but they are eager to force freights still higher, and if they cannot do so by any further depression of wheat values here, will endeavor to take advantage of any stiffening of prices which may be effected in the grain markets of Europe. In their grasping greed they recognize no limit, but that they can continue to exact everything and get it, is extremely improbable. On previous occasions they pursued the same course, and in time discovered their mistake, as the higher the freight rates were crowded to, the greater the tumble as a rule when the relapse came. A serious drawback at present against reasonable freight rates is the heavy draft on ocean craft by the governments of the United States and Great Britain for the transportation of troops and army and navy supplies. This is not likely to last indefinitely, however, and if it should there would be relief through the building of new ships and steamers, as at present profits there are ample inducements for capital to embark in the business of increasing the merchant marine. Hardly two large ship loads of wheat have been shipped from here thus far this month and the movement for October, 1898, was about on a par with that of the present month, but two years ago the export trade at this time was brisk, footing up 198,000 tons from July 1st to October 20th. This season the shipments to date do not aggregate 45,000 tons. The difference in values is still more pronounced in favor of two years ago, when at this date the value of wheat exports had reached $5,860,000, against $980,000 for the current season.

California Milling	$1 07½@1 12½
Cal. No. 1 shipping, alongside	1 07½@1 08¾
Oregon Valley	1 06½@1 10
Walla Walla Blue Stem	1 07½@1 10
Walla Walla Club	1 02½@1 07½
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.13¾@1.11½.

May, 1900, delivery, $1.18¾@1.17.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.11¾@1.12½; May, 1900, $1.17¼@1.17⅝.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s7d@6s8d	6s3¼d@6s4d
Freight rates	22½@25s	36¼@38s
Local market	$1.16¼@1.18¾	$1.05¼@1.08¾

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The market for this product is not showing much life, the movement being hardly up to the average, either on export account or for home use. There is no scarcity of supplies, especially of the product of outside mills, which constitute the bulk of present stocks. Values are quotably unchanged.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Values for this cereal are being fairly sustained, especially for desirable shipping grades. The export movement continues on a liberal scale, and would in all probability be still larger if barley of suitable quality was more readily obtainable. Not only is barley being forwarded freely by sea to England, but shipments are also being made by rail to New Orleans and thence by steamer to Europe. These shipments by rail are not reported officially here, but they should be, as they are of vital importance in the compilation of statistics of the movement of grain from the State. With the extensive export trade in barley at present, much greater than that of wheat, it is remarkable that there are no reports of the condition of the barley market abroad. Some have been censuring the Produce Exchange for this omission, claiming that it was intentional, but the Exchange is not to blame. The fault in this instance is with the telegraph company which furnishes the reports of the Eastern and foreign markets to the Exchange under contract. Officers of the Exchange have made special efforts to have the telegraph management furnish advices as to the condition of the foreign barley market. They have received in return all kinds of assurances and promises, but nothing more. Probably after all the surplus barley has been shipped out of the State, and there is no particular object in keeping posted on the situation abroad, the foreign barley market will be reported for a brief period and then be dropped again indefinitely. Business on local account was not very active and was mostly in off qualities, market for same remaining rather favorable to buyers. Call Board business was of a light order, with fluctuations of a narrow compass.

Feed, No. 1 to choice	82½@ 85
Feed, fair to good	77½@ 80
Brewing, No. 1 to choice	90 @1 00
Chevalier, No. 1 to choice	1 10 @1 15
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 86¼@86¾c.

December, 1899, delivery, 88@87c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 87¼c; seller 1899, new, ——@——c.

Oats.

While the market was without pronounced change, the demand was tolerably active, all descriptions coming in for a fair share of attention, and prices averaged fully as well if not better than at any previous date since the opening of the current season. Arrivals from Oregon and Washington are on the increase, but the aggregate of receipts is hardly as heavy as a few weeks ago, owing to the lighter quantities of California oats coming forward. Much of the oats from the North show rain stains, shippers probably deeming it better to crowd this stock in now and hold the better grades for a later market. Whether this is advisable is questionable. Some dealers give rain-stained the preference, when they can secure the oats at decided reductions from prices asked for bright colored stock.

White Oats, fancy feed	1 17½@1 20
White, good to choice	1 10 @1 15
White, poor to fair	1 05 @1 07½
Gray, common to choice	1 05 @1 12½
Milling	1 10 @1 20
Surprise, good to choice	— @ —
Black Russian	90 @1 00
Red	90 @1 10

Corn.

Market is rather firm, although in quotable rates there are no appreciable changes to record. Moderate quantities of Eastern are coming forward, mostly Large Yellow, and are going mostly to local millers, having been placed previous to arrival. The demand is almost wholly on local account, the shipments outward being of insignificant proportions at present. Domestic Small Yellow is in such light supply as to be hardly quotable, and business in this description is of a retail order.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 40 @ —
Eastern Mixed	97½@1 02½

Rye.

Values are being well maintained at the last quoted advance. Demand is greater than the immediate supply, offerings being light.

Good to choice, new	1 00 @1 02½

Buckwheat.

In consequence of light offerings, prices for this cereal are poorly defined. Market is strong, and indications are that for desirable lots higher figures than below quoted would be paid by local millers.

Good to choice	2 00 @2 15
Silverskin	— @ —

Beans.

The strong tone noted in the bean market at date of last review continues to be experienced. There is not so much activity to report as for preceding week, partly due to some holders having temporarily withdrawn from the market, and in other instances owing to asking figures having been advanced beyond the limits of buyers. The business effected was principally in Lady Washingtons, Bayos and Pinks, these varieties constituting the bulk of present stocks. Market for Limas remains firm, with few of last year's crop now left in either first or second hands. On new crop Limas to arrive, growers are slow to name prices. The extent and condition of the crop will depend much upon the weather of the next week or two. In Small White and Pea beans, as also in Butters and Reds, there is not much doing, owing more to absence of noteworthy offerings than to lack of inquiry. Market for Black-eye beans is fairly steady at previously quoted decline. Horse Beans are not offering in sufficient quantity to be quotable, but supplies of this variety are likely to be materially increased in the near future.

Pea, fair to good, 100 lbs	2 50 @2 65
Small White, good to choice	2 50 @2 65
Lady Washington	2 00 @2 15
Butter, small	3 75 @4 00
Butter, large	— @—
Pinks	1 90 @2 05
Bayos, good to choice	2 10 @2 15
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 50 @4 75
Black-eye Beans	3 25 @3 50
Horse Beans	— @—
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Recent advices by mail from New York furnish the following report of the bean market in that center, prices quoted being per 60-lb. bushel:

There has been no abatement of the very strong features noted a week ago. Receipts have been larger—something over 50 carloads—but a good deal of his stock was wanted by the Government, and there has been such active trading in other directions that the offerings have been taken up quite closely, prices climbing upward at a remarkably rapid pace. This is the season when the home trade approaches its best, but there has been an unusually strong demand of late which leads to the conclusion that beans are having increased consumption in common with many other articles of produce. Marrow have made a further advance of 15c, and close firm at $2 for choice old. A few lots of new have arrived but neither the size nor color was as good as the old beans, and they both sold at same price. The stock of old Medium is now very small and late jobbing sales have been at $1.60. New Michigan Pea in bags advanced early in the week to $1.50, then to $1.55 at which some three carloads were sold; subsequent business has been done in a jobbing way at $1.57½@1.60, and the latter figure is now asked. Some old State Pea are closing out at $1.50@1.55. Old Red Kidney have worked up to $2 firm, with some holders asking more for best stock. A few lots of new arrived and were taken for export, mostly at about $2.20. Not enough White Kidney here to fix a price. Last sale of Yellow Eye at $1.60, but it would now be difficult to buy at that. Turtle Soup have shared fully in the improvement, but the advance has been due mainly to very small supplies. Lima somewhat higher but moving slowly; quotable $2.85@2.90. Very few green or Scotch peas here and market strong.

Dried Peas.

Market is not largely stocked with either the Green or Niles varieties, and is not likely to be the current season. Quotable prices remain as last noted, with slightly higher figures possible in a small way for select qualities.

Green Peas, California	1 75 @2 00
Niles Peas	1 40 @1 50

Wool.

While demand continues good for free Fall wools, and market for this class of stock is firm at the quotations, the business doing is almost wholly on local speculative account. Neither Eastern manufacturers nor dealers are doing any noteworthy buying in this market at present, confining their purchases largely to Territorial and Combing wools. That Pacific coast fleeces will come in for attention from Eastern operators later on there is no reason to doubt. The market presents in the main a generally healthy tone, values in Eastern and foreign centers being as a rule well sustained. All heavy and defective wools now offering here are being neglected, and this will probably continue to be case for some weeks, or until the better grades have passed out of first hands. It is confidently expected that these defective fleeces will find their way into the hands of scourers before the season closes, but from present indications not until after the mid-Winter holidays.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	14 @15
Middle Counties	8 @10
Northern, free	9½@11½
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

The market remains quiet, there being scarcely any inquiry from dealers, either for shipment or on local account. Considerable quantities of hops have lately gone outward by sea and rail, but indications are that they were consignments seeking a market and did not represent purchases. This is generally the busy season in the hop trade, so it would be phenomenal if there was no outward movement at present, at least through consignments if not otherwise. It does not augur well for the future, however, to have an absence of inquiry from foreign points. With dullness the prominent feature prior to the New Year holidays, it is the rare exception where other than a dragging and unsatisfactory market is experienced in the latter part of the season.

Good to choice, 1899 crop	9 @12

The following concerning the hop market is from a New York authority and comes through by mail of recent date:

Very little business has been done here during the week, as brokers have not begun to buy to any extent, and shippers seemingly have no orders. Last week a London exporter bought a few lots in the interior of this State, but no further purchases have been reported in any section this week. A little over 1,000 bales arrived from the Pacific coast in transit for export, but the presumption is that those went through on consignment. The absence of trading of any volume keeps the market in a more or less unsettled condition, but the tone is somewhat easier, and we reduce quotations to more nearly correspond with the prices at which goods could be bought. The few sales reported in the country have been in range of 9½@12c for '99 hops, and 8@9c generally for '98s. On the Pacific coast not much business has been done, growers generally asking more than dealers are willing to give. We hear of recent bids in Oregon of 9@10c. Mail advices from London say that the attack of aphis blight has not only forced a reduction in the highest estimates of the yield, but the quality has suffered considerably from discoloration. This has caused a generally firmer feeling in the market.

Hay and Straw.

Although receipts of hay have shown material reduction the past week, the market has developed no appreciable improvement, aside from a slightly better tone for best qualities of Wheat and Tame Oat hay. The decrease in arrivals was in a great measure due to the rainy weather the latter part of last week. Large quantities of hay were exposed to the rain, but beyond being stained the hay suffered no serious damage, as the subsequent weather was cool and bright, reducing the injury from the rain to the minimum. The outlook is for continued low prices on common qualities, but values for strictly choice hay will likely harden to some extent at no very distant day.

Wheat	6 50@ 9 25
Wheat and Oat	6 00@ 8 50
Oat	6 00@ 8 00
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	—@—
Compressed	7 00@ 9 00
Straw, ₱ bale	25@ 40

Millstuffs.

Bran and Middlings were more firmly held, more particularly the former, which was quotably higher. Supplies were light and demand fair. In values for other millstuffs quoted herewith there were no changes worthy of detailed mention.

Bran, ₱ ton	17 50@18 50
Middlings	18 50@21 00
Shorts, Oregon	17 50@19 00
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

The Mustard Seed market remains very much as last noted. The Yellow Mustard has been practically closed out. The Trieste variety is still in fair stock, not much attention being given to it, but it is steadily held, owners having confidence in the future of the market. The ship Aryan, sailing Tuesday for New York, took 120 tons Mustard Seed. Some Flaxseed is coming forward, the mills bidding 2c for prime and asking 2½c for recleaned stock.

	Per ctl.
Mustard, Trieste	3 15@3 25
Mustard, Yellow	3 75@4 00
Flax	2 00@2 25
	Per lb
Canary	3¼@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	—@ —

Bags and Bagging.

The Grain Bag market is inactive, as is generally the case at this time of year, and values for the time being are wholly nominal. Market for cotton Fruit Sacks is higher, with fair movement. Bean Bags are ruling steady. Wool Sacks are offering at unchanged rates, with trade light.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¼
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@27
Gunnies	—@12½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	6 @ 6¾

Hides, Pelts and Tallow.

Market is not burdened with offerings of any articles quoted under this heading. Prices are being maintained at the same high range current for some weeks past, with no likelihood of any weakness being soon developed.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11 @—	10 @—
Medium Steers, 48 to 56 lbs	10 @—	9 @—
Light Steers, under 48 lbs	9½@—	8½@—
Heavy Cow Hides, over 50 lbs	9½@—	8½@—
Light Cow Hides, under 50 lbs	9½@—	8½@—
Wet Salted Kip	9½@—	8½@—
Wet Salted Veal	9½@—	8½@—
Wet Salted Calf	10@—	9 @—
Dry Hides	16½@17	13 @—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13 @—
Dry Calf, under 4 lbs	17@—	13 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	90 @1 25	
Pelts, medium, per skin	60 @ 75	
Pelts, short wool, per skin	30 @ 50	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	
Deer Skins, thin winter	— @ 10	
Elk Hides	10 @ 12	
Tallow, good quality	4¼@ 4¾	
Tallow, No. 2	3¾@ 4	
Goat Skins, perfect	30 @ 37½	
Goat Skins, damaged	10 @ 20	
Kid Skins	5 @ 10	

Honey.

A shipment of 253 cases Extracted honey went forward this week by sailing vessel for New York. Values remain without appreciable change. Considering the light supplies and the unfavorable condition of the market for buyers, there is a fair movement. A subscriber questioned the past week the correct-

ness of the quotations, as the buyers he solicited did not bid such figures. The quotations are all right, and if the honey is all right these prices should be realized, although there is no control over buyers, they being at liberty to bid as they please.

Extracted, White Liquid	7¼@ 7¾
Extracted, Light Amber	6½@ 7
Extracted, Amber	5 @ 5½
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

There is little offering in this center and no evidence of much remaining in the interior. Market is firm at the quotations.

Good to choice, light, ₱ lh	26 @27
Dark	24 @25

Live Stock and Meats.

Beef has been in better request the past week, and was in rather light receipt. The market has in consequence presented a better tone, although quotable rates remain about as last noted. Mutton ruled steady, the demand being fair and supplies not particularly large. Prices for Veal and Lamb were without important change. Hogs were in fairly liberal receipt for the demand at prevailing rates, which was limited to immediate needs. Small fat Hogs were most in request.

Beef, 1st quality, dressed, net ₱ lh	7¼@ 7½
Beef, 2d quality	6½@ 7
Beef, 3d quality	6 @ 6½
Mutton—ewes, 6½@7c; wethers	6½@ 7
Hogs, hard grain fed, medium	5½@ 5⅝
Hogs, small, fat	5½@ 5⅝
Hogs, large hard	3½@ 5¼
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ₱ lh	7 @ 9
Veal, large, ₱ lb	8 @—
Lamb, spring, ₱ lh	8 @ 8½

Poultry.

Receipts of California poultry were very moderate, but six or seven cars of Eastern poultry came to hand within the week, and the general drift of values was against sellers, especially for other than most select stock. Extra large and fat Chickens and Small Broilers in prime condition received the most attention and sold to best advantage. Old Turkeys met with a weak market.

Turkeys, young, ₱ lb	15 @ 16
Turkeys, live hens, ₱ lh	13 @ 14
Turkeys, live gobblers	13 @ 14
Hens, Cal., ₱ doz	4 00 @5 50
Roosters, old	4 00 @4 50
Roosters, young, (full-grown)	4 00 @4 50
Fryers	3 50 @4 00
Broilers, large	3 25 @3 50
Broilers, small	3 00 @3 25
Ducks, ₱ doz	4 00 @6 00
Geese, ₱ pair	1 75 @2 25
Goslings, ₱ pair	1 75 @2 25
Pigeons, Old, ₱ doz	1 25 @1 50
Pigeons, Young	1 75 @2 00

Butter.

Prices have again advanced for best quality of fresh butter, both creamery and dairy product, with the output naturally light at this time of year, a large proportion of the cows of the State being now dry and there being very little first-class feed. On other than best grades of fresh, however, the market displayed no particular firmness. Common qualities had to come into competition with packed butter; of the latter there was an abundance for all needs; stocks of packed are mostly in tubs.

Creamery extras, ₱ lb	30 @—
Creamery firsts	29 @—
Creamery seconds	28 @—
Dairy select	27 @28
Dairy seconds	20 @23
Dairy, soft and weedy	— @—
Mixed store	14 @16
Creamery in tubs	18 @20
Pickled Roll	18 @20
Firkin, Cal., choice to select	18 @20
Firkin, common to fair	15 @16

Cheese.

This market remains in all essential respects as last noted. Fancy new, just a few weeks from the press, is in light stock and commands stiff prices, selling in a small way above quotable rates. Other descriptions are in ample supply for immediate needs, and although quite steadily held, are not moving freely at full current rates.

California fancy flat, new	11½@—
California, good to choice	10 @11
California, fair to good	9 @10
California Cheddar	—@—
California, "Young Americas"	10 @12

Eggs.

Strictly select to fancy qualities of fresh from near-by points have been in such light stock that sellers have had very much their own way as to prices, and close quotations were difficult to name. Some which were fresh, but were not uniformly large and white, sold under extreme quotation below noted, while some of very fancy quality were placed at an advance on our top figure. Fresh eggs of only fair quality from Missouri were sold here at 23c., being little more than the figure asked for choice cold storage stock. Eastern and local cold storage eggs were in large supply.

California, select, large white and fresh	40 @42½
California, select, irregular color & size	33 @38
California, good to choice store	25 @30
Eastern, as to section and grading	20 @27
Eastern, cold storage	— @—

Vegetables.

The display in this line is not extensive at present, either as to quantity or variety. Changes in quotations were not numerous or pronounced. Onions continued in good supply and market inclined in favor of buyers.

Asparagus, fancy, ₱ box	—@ —
Asparagus, No. 1, ₱ box	—@ —
Asparagus, common to fair, ₱ box	—@ —
Beans, Wax, ₱ lb	—@ —
Beans, String, ₱ lb	2½@ 3½
Beans, Lima, ₱ lb	4@ 5
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	50@ —
Corn, Alameda, ₱ crate	1 00@ 1 25
Corn, Green, ₱ sack	—@ —
Corn, Berkeley, ₱ crate	—@ —
Cucumbers, Alameda, ₱ large box	40@ 75
Cucumbers, ₱ small box	—@ —
Egg Plant, ₱ box	35@ 60
Garlic, new, ₱ lb	2@ 3
Mushrooms, Buttons, ₱ lh	—@ —
Mushrooms, wild, ₱ box	—@ —
Okra, Green, ₱ box	50@ 75
Onions, Yellow, good to choice, cental	50@ 65
Onions, New Red, ₱ cental	—@ —
Peas, Sweet, Garden, ₱ lb	3½@ 4
Peas, common, ₱ lb	—@ —
Peppers, Green Chile, ₱ box	35@ 60
Peppers, Bell, ₱ large box	60@ 85
Pickles, small, ₱ cental	—@ —
Pickles, No. 2, ₱ cental	—@ —
Rhubarb, ₱ box	—@ —
Squash, Bay, ₱ large box	—@ —
Squash, Marrowfat, ₱ ton	10 00@15 00
Squash, Summer, ₱ box	50@ 75
Tomatoes, River, ₱ box	20@ 30
Tomatoes, Bay, ₱ box	25@ 40

Potatoes.

While quotable rates in the potato market did not fluctuate to any great degree, the tendency on best qualities of Burbank Seedlings was to more firmness. The Sacramento river district is still furnishing the bulk of offerings. Oregon is forwarding small quantities, which are selling mostly from store instead of wharf. Sweet potatoes were in very fair supply, as compared with the demand, and market presented an easy tone.

Burbanks, River, ₱ cental	65 @ 80
Burbanks, Bay counties, ₱ ctl	— @ —
Burbanks, Humboldt	— @ —
River Reds	60 @ 75
Early Rose	45 @ 60
Garnet Chile	60 @ 75
Burbanks, Salinas, ₱ cental	95 @1 15
Sweet River, ₱ cental	1 00 @1 25
Sweet Merced	1 25 @ —

The Fruit Market.

Fresh Fruits.

In the market for fresh fruits, Apples are now occupying a prominent position, if not taking the lead in deciduous varieties. While stocks of Apples are of fair volume, they have in previous seasons been much larger at this time of year. It is extremely doubtful if there will be excessive quantities of desirable qualities on market at any time the current season. Prices for this fruit show about the same quotable range as last noted, with market firm for choice to select, but rather slow and weak for seriously defective fruit. Pears are not in heavy evidence, neither is the inquiry particularly brisk. Select stock is commanding in a small way comparatively good figures, much the same as are current on Apples. Peaches are in very light supply and will soon be wholly out of market. The demand is likewise limited at this late date, and only choice are sought after, such selling to fair advantage. Plums of late varieties are offering in moderate quantity, with inquiry of a rather light order, and market not particularly firm at the quotations, which remain in about same position as previous week. Grapes continued to make a fair display, especially when taking into consideration the rain of the latter part of last week, which did considerable damage to Grapes exposed on the vines. Table Grapes were in fair request, values being sustained at about same levels as preceding week. Occasional sales of very select were made above quotations. Wine Grapes averaged slightly higher than preceding week, with demand good and offerings of very moderate volume. In the berry line, Strawberries were in fair receipt, but the quality did not average high, this being largely due to the recent rain. Cranberries are now offering from Oregon at $2 per one-bushel box. Eastern Cranberries are plentiful and market easy in tone, with quotable rates at $7.00@8.00 per barrel.

Apples, fancy, ₱ 50-lb. box	—@ —
Apples, fancy, 4-tier box	1 00@ 1 25
Apples, good to choice, ₱ 50-lb. box	75@ 90
Apples, Green, common to fair, ₱ 50-lb. box	25@ 50
Blackberries, ₱ chest	4 00@ 6 00
Cantaloupes, ₱ crate	75@ 1 50
Cantaloupes, Nutmeg, ₱ crate	40@ 75
Figs, Black, 1-tier box	40@ 75
Figs, White, ₱ box	—@ —
Grapes, Black, ₱ crate	40@ 75
Grapes, Fontainebleau, ₱ crate	—@ —
Grapes, Muscat, ₱ crate	40@ 75
Grapes, Tokay, ₱ box, 40@75c; ₱ crate	50@ 90
Grapes, Seedless, ₱ box, —@—; ₱ crate	—@ —
Grapes, Cornichon, ₱ crate	50@ 90
Grapes, Isabella, @ crate	75@ 1 00
Grapes, Zinfandel, ₱ ton	23 00@26 00
Grapes, Mission, ₱ ton	20 00@24 00
Grapes, White, ₱ ton	18 00@22 00
Peaches, fancy wrapped, ₱ box	1 00@ 1 25
Peaches, ₱ box	60@ 1 00
Pears, late varieties, ₱ box	50@ 1 25
Plums, ₱ box	50@ 1 00
Pomegranates, ₱ box	40@ 75
Quinces, ₱ box	50@ 75
Raspberries, ₱ chest	4 00@ 6 00
Strawberries, Large, ₱ chest	2 00@ 4 00
Whortleberries, ₱ lb	4@ 7

Dried Fruits.

In the market for cured and evaporated fruits much the same healthy tone prevails as noted in previous review. In quotable values there are no special changes to record. Evaporated Apples are in active request, not only on local account, but for shipment North and East, and also for the filling of Government orders. Market is strong at the quotations, these figures being more in accord at present with the bids of buyers than with the views of holders who are posted on the existing situation and the prospects. That values will recede is wholly improbable, and there are not a few who predict materially higher prices for this fruit before the close of the season, stocks everywhere being light. Peaches continue in good request and values are being well sustained at prevailing quotations, market being particularly firm for choice unpeeled, offerings running largely to common and medium qualities. Peeled Peaches also incline in sellers' favor, with choice in such light stock as to hardly admit of wholesale operations. Pears are not offering in heavy quantity and there is no lack of demand for desirable qualities at current rates. Pitted Plums are ruling steady, no trouble being experienced in finding buyers for good to choice qualities at current figures, especially of white and red varieties, which are given the preference over black. Market for Figs is decidedly strong at the quotations, especially for high-grade stock, under very limited supplies. Prunes are moving slowly, but prices are unchanged, market continuing firm for the small sizes, the proportion of this sort being light the current season. Principal holders are displaying no uneasiness, feeling confident that before long a more active inquiry will be experienced.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½ @12½
Apricots, Royal, fancy	12½@13½
Apricots, Moorpark	13 @15
Apples, in 50-lb. boxes, rings, pressed, fancy	7 @ 7½
Apples, 50-lh. boxes, rings, pressed, good to choice	6½@ 7
Figs, White, fancy pressed	8½@ 9½
Peaches, unpeeled, good to choice	5½@ 6½
Peaches, unpeeled, fancy	7½@ 8½
Peaches, peeled, in boxes	12 @15
Pears, unpeeled Bartletts, halved, fancy	10 @11
Pears, halved, unpeeled Bartletts	8 @ 9
Pears, quartered, unpeeled Bartletts	7½@ 8½
Plums, Black, pitted	6 @ 6½
Plums, White and Red, pitted	8 @ 8½
Prunes, in sacks, 40—50's	4½@ 4¾
50—60's	4 @ 4¼
60—70's	3¾@ 4
70—80's	3¼@ 3½
80—90's	2¾@ 3
90—100's	2½@—
110—130's	2 @—
Prunes in boxes, ¼c higher for 25-lb boxes, ½c higher for 50-lb boxes.	
4 sizes Santa Claras and equal	3 @—
4 sizes San Joaquin and Northern	2½@ 2¾
Prunes, Silver	4 @ 7

COMMON SUN-DRIED.

Apples, sliced	4½@ 5½
Apples, quartered	4½@ 5½
Figs, Black	6 @ 6½
Figs, White	—@—
Peaches, unpeeled	—@—

Advices of late date ay mail from New York furnish the following report of the dried fruit market in the East:

Evaporated apples have had more attention this week. Large lots having changed hands for this month's and later delivery and a steady jobbing demand has prevailed. Prices have gradually improved, especially on the fruit for future delivery and spot apples have worked up in sympathy. At the close higher prices are being bid for futures than can be obtained on spot, recent jobbing sales making mainly at 7c for prime and 7½@8c for choice to fancy, with latter occasionally higher. Sun-dried apples are held steady with fancy having a possible value above quotations. Chops and waste have shown no material change. Small fruits in light supply and held with confidence at the high prices quoted. California fruit has shown little change except peaches which are in active demand, firm and higher.

Apricots, Cal. Moorpark, 1899, per lb	14 @16
Apricots, Cal. Royal, 1899, per lb	12 @13
Peaches, Cal., 1899, unpeeled, in boxs. lh	8 @10
Peaches, Cal., 1899, unpeeled, in bags, lh	8½@ 8½
Prunes, Cal., 1898, per lh	3 @ 8

Raisins.

A firm market is reported and a free movement outward to all sections ordinarily drawing on this State for supplies. No serious damage is reported in consequence of last week's rain. Most of the weather the current week has been favorable for picking and curing.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ₱ box	$3 00@—
Do do 5-crown, ₱ box	2 50@—
Do do 4-crown, ₱ box	2 00@—
Do do 3 crown, ₱ box	1 60@—
Do do 2-crown, ₱ box	1 50@—
Valencia layers, ₱ 20-lb box	80@1 00
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	7 @ —
Loose Muscatel, 3-crown	6¼@ —
Loose Muscatel, 2-crown	5½@ —
Loose Muscatel, ungraded	—@ —
(Above prices for loose raisins are for 50-lh boxes.)	
Dried Grapes	—@ —

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ₱ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ₱ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Oranges are out of stock and there is no prospect of there being any of this fruit for two or three weeks, when new crop oranges are expected to arrive in small quantity. Lemon market was less active than preceding week and more in buyers' favor, the weather operating against the selling interest. Limes were less plentiful, but with the demand slow, the market presented an easy tone.

Lemons—Cal., select, ₱ box	3 50@ 4 00
Cal., good to choice	2 50@ 3 00
Cal., common to good	2 00@ 2 50
Limes—Mexican, ₱ box	6 50@ 7 00
Cal., small box	—@ —

Nuts.

Almonds are in good request at ruling rates, there being no excess of offerings and not likely to be the current season. Shelled Almonds are wanted at 25c per lh. New Walnuts have not yet arrived here in noteworthy quantity, although the crop has been practically disposed of. Quotations below are based on current jobbing prices. Peanut market is quiet at unchanged figures.

California Almonds, shelled	25 @—
California Almonds, paper shell, ₱ lh	12 @14
California Almonds, soft shell	10 @12
California Almonds, hard shell	8 @10
Walnuts White, paper shell	— @—
Walnuts White, soft shell	9½@10
Walnuts White, Cal., standard	8½@ 9
Chestnuts, Cal. Italian	12½@15
Peanuts, Cal., fair to prime	4½@ 6
Peanuts, Eastern hand-picked	6½@ 7
Pine Nuts	5 @ 8

Wine.

Quotable values remain in about same position as last noted, with market quiet but steady. Offerings from first hands are of such small volume that there is little opportunity for business in a wholesale way. For new Claret the quotations are 15@20c per gallon, San Francisco delivery, as to quantity and quality. Receipts of wine at this center for September were 900,100 gallons, against 949,000 gallons for corresponding month last year, and 993,000 gallons in September, 1897. Tolerably free shipments are being made Eastward by rail, and moderate quantities have been the past week forwarded outward by sea.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the Pacific Rural Press to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	67,556	1,570,143	1,370,987
Wheat, ctls	22,749	1,089,990	936,246
Barley, ctls	94,143	2,343,875	506,308
Oats, ctls	23,332	272,409	234,875
Corn ctls	1,835	30 315	55,855
Rye, ctls	810	57,807	9,425
Beans, sks	27,474	90,350	99,246
Potatoes, sks	32,200	331,323	329,472
Onions, sks	6,119	76,166	72,368
Hay, tons	3,583	65,064	61,873
Wool, bales	1,630	21,829	20,085
Hops, bales	773	4,100	4,689

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	52,112	901,703	911,124
Wheat, ctls	6,907	826,114	510,987
Barley, ctls	92,275	1,775,782	80,092
Oats, ctls	1,288	13,992	8,537
Corn, ctls	513	5,039	5,348
Beans, sks	1,463	6,759	45,549
Hay, bales	3,499	32,304	20,938
Wool, lbs	57,166	515,527	604,651
Hops, lbs	56,497	330,355	513,580
Honey, cases	27	2,137	3,027
Potatoes, pkgs	1,026	15,318	15,134

California Dried Fruit at New York.

New York, Oct. 18.—California dried fruits; Market firm and active. Evaporated apples, common, 7½c; prime wire tray, 7½@8½c; choice, 8¾@9c; fancy, 9@9¼c.
Prunes, 3½@8c.
Apricots, Royal, 12½@14c; Moorpark, 15@18c.
Peaches unpeeled, 7¾@9c; peeled, —@—c

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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 3, 1899.

634,128.—SWIMMING APPARATUS—F. H. B. Bahhe, Sanger, Cal.
634,162.—WEIGHING SCALE—W. S. Bracktle, Oakland, Cal.
634,392.—BOLT HOLDER—E. T. Clowe, Woodland, Cal.
634,230.—CONDUIT PIPE—A. S. Dixon, Escondldo, Cal.
634,056.—BUTTON — A. Ducommun, Bakersfield, Cal.
634,134.—CIGAR—B. Fanta, Los Angeles, Cal.
634,333.—WRAPPING MACHINE—G. L. Gay, Spokane, Wash.
634,334.—SACK HOLDER—F. H. Gilbert, Ridgefield, Wash.
634,132.—LUNCH BUCKET—Minnie Gilmore, Garden Valley, Cal.
634,339.—BOILER FEEDER—Hanthorn & Welch, Astoria, Or.
634,113.—WATER FILTER—A. Kenney, S. F.
634,414.—STOVE GRATE—J. E. Keyt, S. F.
634,358.—PLOW—J. T. Lucas, Wasco, Or.
634,119.—ELEVATOR—R. S. Moore, Oakland, Cal.
634,270.—BOILER TUBE CLEANER—A. A. Patton, S. F.
634,182.—BRAKE SHOE—A. H. Peterson, San Simeon, Cal.
634,185.—CONFECTIONERY MACHINE — H. B. Pinney, Oakland, Cal.
634,417.—STAMP MILL—Pratt & La Grave, Carson, Nev.
634,123.—BURIAL VAULT—H. Root, S. F.
634,247.—ROASTING FURNACE — A Ropp, Selby, Cal.
634,124.—FINGERING DEVICE—Scott & Brown, S. F.
634,373.—STORE STOOL—J. W. Smith, Portland, Or.
634,249.—EGG TESTER—A. Thomass, Los Angeles, Cal.
634,192.—TRICYCLE—S. Vaughn, Bakersfield, Cal.
634,194.—GEAR—W. C. Woodward, Los Angeles, Cal.
31,618.—DESIGN, PUZZLE BOARD — G. Schultze, Berkeley, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained hy Dewey, Strong & Co., hy mail or telegraphic order. American and Foreign patents secured, and general patent husiness transacted with perfect security, at reasonahle rates, and in the shortest possihle time.

Notices of Recent Patents.

Among the patents recently ohtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

SWIMMING APPARATUS.—F. H. B. Bahhe, Sanger, Cal. No. 634,128. Dated Oct. 3, 1899. This invention relates to an improved apparatus to aid in swimming. It consists of a palm piece having an essentially straight inner edge and a semi circular outer periphery. A channel is formed in the outer periphery and radial hars are pivoted in said channel. A flexible covering is fixed to the hars, leaving a space hetween it and the palm piece for the insertion of the fingers. The device is pulled through the water hy the hands, a flat surface of the flexihle covering serving as a paddle. As soon as the hands are returned for a new stroke, the projection of the angular side of the paddle, heing greater than the inner or straight side, tends to turn or feather the paddle so that it returns easily through the water to the starting point. It can he easily closed and dropped from the hand if it is required to use the hand for any other purpose, the device being connected hy a strap with a wrist hand which prevents its being lost.

AUTOMATIC FINGERING DEVICE FOR STRINGED INSTRUMENTS —J. H. Scott and S. H. Brown, San Francisco, Cal. No. 634,124. Dated Oct. 3, 1899. The object of this invention is to provide a mechanical device hy which all the chords in major or minor keys can be produced and all the strings can be held down at once instead of only a few, as in the case of the ordinary fingering of the guitar. It consists of a hase or support and a means for attaching it to the finger har of the instrument. Sets of arms are arranged—one set substantially at right angles with the other and adapted to turn ahout an axis common to hoth. Each arm of one set is connected with the corresponding arm of the other set and one set of arms lying substantially parallel with the finger hoard. In connection with this is a mechanism hy which one set of arms is actuated to cause the other set to hold down the strings of the instrument. Spiral spring connections with the keys serve to return them to their normal position after they have heen depressed, and hy the use of the levers upon one side or the other of the device any set of keys can he operated to produce the chords which may he desired.

BURIAL VAULT.—Henry Root, San Francisco, Cal. No. 634,123. Dated Oct. 3, 1899. The object of this invention is to furnish a means for the disposition of the hodies of the dead without danger of annoyance to the living and without shock to the feelings of friends, caused hy the usual method of enclosing the hody in a close hox or casket and hurying it in the ground. The vault consists of a chamber with masonry walls, double doors with a space intermediate and a means for filling this space after the doors have heen closed. The interior chamher has a horizontal diaphragm or partition terminating short of one end of the chamher and leaving a passage through which the gases and vapors from the decomposing body can pass. Through the passage and the return thus created, and through a vertically disposed flue filled with deodorizing material, these vapors pass, and are eventually allowed to escape into the open air in a harmless condition.

VENTILATED LUNCH BUCKET.—Minnie Gilmore, Garden Valley, Cal. No. 634,132. Dated Oct. 3, 1899. The object of this invention is to provide a means for ventilating a bucket containing different kinds of food so as to prevent the disagreeable mixing of the odors which would render the food unpalatable. The bucket consists of superposed compartments with substantially uniform diameter and provided at points above their hottoms with flanges or fillets so that the compartments may he supported one above the other to prevent continuous and substantially unbroken sides throughout the height of the bucket. These compartments have perforations above the flanges or fillets, the portions below heing imperforate and fitting within the open end of the next lower compartment. A cover is provided with lugs and a ball secured to the lower compartment extends upupwardly along the sides of the bucket so as to spring into notches formed in the lugs of the cover and thus retain the bucket in an upright position.

CONFECTIONERY MACHINE.—H. B. Pinney, Oakland, Cal. No. 634,185. Dated Oct. 3, 1899. This machine is designed to press substances of various kinds into compact from or shape, and it is especially designed for use in making confectionery such as popcorn, nuts or other substances which are mixed with the hoiled sugar, syrup and afterward made into disks or other forms. The apparatus consists of a hase having guide posts and plate vertically movahle and guided hy said posts, plungers projecting from the lower face of the plate and molds coincident with the plungers having an enclosing frame with outwardly projecting flanges while other frames guided hy the posts have inwardly turned flanges which engage those of the molds from helow. A lever has the inner end fulcrumed and connections are made hetween it and the plunger plate so as to raise or depress the latter. An arrangement is fulcrumed to and movable with the frames or carriers and has a hook adapted to engage the plunger-moving lever at a greater distance from its fulcrum than that of the plunger plate, so that the frames or carriers and the mold are first raised above the material which has been molded, while the plungers act to force the material within the molds and clear therefrom.

BOILER TUBE CLEANER AND DRIVER.—A. A. Patton, San Francisco, Cal., assignor of one-half to G. H. Larkin, of same place. No. 634,270. Dated Oct. 3, 1899. This invention relates to a device for cleaning the interior of steam holler tuhes. These tuhes become coated in a short time with deposits which it is necessary to clean off in order to make them effective. The apparatus consists of a head having teeth or cutters formed thereon, the head heing made smaller than the tuhe which it is to clean and so connected with the driver that it is given a wohhling gyratory motion within the tuhe, so that the cutting edges are caused to constantly strike against the coating and hreak it away from the tuhe, the gyratory motion heing particularly effective for this purpose. The head is preferably formed with independent removahle disks of successively small diameter from one end toward the other and having the teeth made upon the peripheries of the disks so as to hreak joints when they are fixed together. The driver consists of a head having a flat disk forming its front end with perforations for the discharge of water and a pipe through which water is supplied under pressure. The wall has diagonally disposed holes made through it on the line of the supply passages of the head and a spindle hy which the wheel is connected with the head. Ball hearings are interposed hetween the face of the wheel and the contiguous face of the head, and a disk or collar exterior to the wheel with corresponding ball hearings and lock nuts fitting the spindle serves to hold and adjust the wheel with relation to the head. The cleaner has a stem which forms one member of a universal coupling and a yoke extension from the face of the wheel forms the other member of this coupling through which the peculiar motion previously described is given to the cleaning head.

WATER FILTER.—A. Kenney, San Francisco, Cal., assignor to H. Zadig, R. C. Reed and Wm. Brady, of same place. No. 634,113. Dated Oct. 3, 1899. This invention relates to an improved automatically cleaning filter for water and the like. It consists of a filtering chamher, an exterior chamher within which it is contained and into which the water is admitted so as to pass through the sides of the filter to the interior, with means for discharging the water from the interior of the filter. In connection with this is a revoluble jet mechanism hy which the exterior of the filter may he cleansed at will. The filter portion is fitted around a vertical central discharge pipe which has perforations interior to the filter so that water passing from the outer casing to the interior through the sides of the filter will he admitted into the central pipe and discharged through a hole at the hottom. Vertical pipes are carried in a step surrounding the lower discharge portion of the apparatus and these pipes are revoluhle around the filter hy means of diagonally disposed jets which revolve the tuhes hy reactionary force, and at the same time discharge against the exterior of the filter so as to clean off any accumulations which may he thereon.

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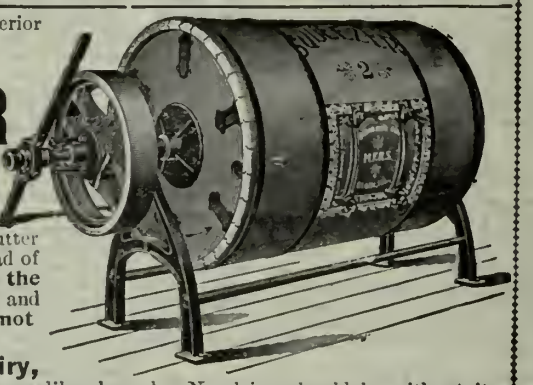
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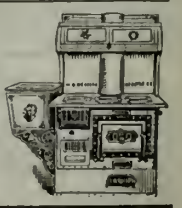
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Table of Rainfall for Fifty Years.

RAINFALL IN SACRAMENTO FROM 1849 TO 1899—FROM THE RECORDS OF DR. T. M. LOGAN, DR. F. W. HATCH, AND THE U. S. WEATHER BUREAU.

[COMPILED ESPECIALLY FOR THE PACIFIC RURAL PRESS.]

YEAR.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Totals.
49-50	.25	1.50	2.25	12.50	4.50	.50	10.00	4.25	.25	.00	.00	.00	36 00
50-1.....	.00	.00	T	T	.65	.35	1.88	1 14	.69	.00	.00	.00	4.71
51-2.....	1.00	.18	2.14	7.07	.58	.12	6.40	.19	.30	.00	.00	.00	17.98
52-3.....	T	.00	6.00	13.40	3.00	2.00	7.00	3 50	1.45	T	T	.00	36.35
53-4.	T	T	1.50	1.54	3.25	8.50	3.25	1.50	.21	.31	.00	T	20.06
54-5.....	T	1.01	.65	1.15	2.67	3.46	4.20	4.32	1.15	.01	.00	.00	18.62
55-6.....	T	.00	.75	2.00	4.92	.69	1.40	2.13	1.84	.03	.00	.00	13.76
56-7.....	T	.20	.65	2.40	1.38	4.80	.68	T	T	.35	.00	T	10.46
57-8.....	.00	.66	2.41	2.63	2.44	2.46	2.88	1.21	.20	.10	.01	T	14.99
58-9.....	T	3.01	.15	4.34	.96	3.91	1.64	.98	1.04	.00	.00	.00	16.04
59-60.....	.02	.00	6.48	1.83	2.31	.93	5.11	2.87	2.49	.02	.63	.00	22.06
60-1.....	.06	.91	.18	4.28	2.67	2.92	3.32	.48	.59	.14	.55	.00	16.18
61-2.....	.00	T	2.17	8.64	15.04	4.26	2.80	.82	1.81	.01	.00	.01	36.10
62-3.....	.00	.36	T	2.33	1.73	2.75	2.36	1.69	.36	.00	.00	.00	11.59
63-4.....	T	.00	1.49	1.82	1.08	.19	1.30	1.08	.74	.09	.00	.08	7.79
64-5.....	T	.12	6.72	7.87	4.78	.71	.48	1.37	.46	.00	T	.00	22.59
65-6.....	.08	.48	2.43	.36	7.70	2.01	2.02	.48	2.25	.10	.02	.00	17.91
66-7.....	.00	T	2.43	9.51	3.44	7.10	1.01	1.80	.01	.00	.00	.00	25.32
67-8.....	.01	.00	3.81	12.85	6.04	3.15	4.35	2.31	.27	T	.00	.00	32.79
68-9.....	.00	.00	.77	2.61	4.79	3.63	2.94	1.24	.65	.01	.00	.00	16.64
69-70.....	T	2.12	.85	1.96	1.37	3.24	1.64	2.12	.27	T	T	T	13.57
70-1.....	.00	.02	.58	.97	2.08	1.92	.60	1.45	.76	T	.00	.00	8.47
71-2.	T	.21	1.22	10.59	4.04	4.74	1.94	.61	.28	.02	.00	.00	23.65
72-3.....	T	.22	1.93	5.39	1.23	4.36	.55	.51	.00	T	.02	T	14.19
73-4.	.00	.31	1.21	10.01	5.20	1.86	3.05	.89	.37	T	T	.00	22.92
74-5.....	.05	2.26	3.80	.44	8.70	.55	.80	T	T	1.10	.00	.00	17.70
75-6.....	.00	.44	6.20	5.52	4.99	3.75	4.15	1.10	.15	.00	.21	02	26.30
76-7.....	T	3.45	.30	.00	2.77	1.04	.56	.19	.64	.01	T	T	9.19
77-8.....	.00	.73	1.07	1.43	9.26	8.04	3.09	1.07	.17	.00	.00	.00	24.86
78-9.....	.29	.55	.51	.47	3.18	3.88	4.88	2.66	1.30	.13	T	T	17.85
79-80	.00	.88	2.05	3.41	1.64	1.83	1.70	14.20	.76	.00	T	.00	26.47
80-1	.00	.00	.05	11.81	6.14	5.06	1.37	1.64	T	.50	T	.00	26.57
81-2.....	.30	.55	1.88	3.27	1.89	2.40	3.78	1.99	.35	.10	T	.00	16.51
82-3	.57	2.63	3.22	1.13	2.23	1.11	3.70	.67	2.85	.00	.00	.00	18.11
83-4.....	.90	.97	.61	.44	3.43	4.46	8.14	4.32	.06	1.45	.00	T	24.78
84-5.....	.60	2.01	.00	10.45	2.16	.49	.08	.68	T	.11	T	.00	16 58
85-6.....	.08	.02	11.34	5.76	7.95	.29	2 68	4.08	.07	.00	.00	.00	32.27
86-7.....	.00	.68	.21	2.21	1.12	6.28	.94	2.53	T	.00	.00	T	13.97
87-8.....	.02	.00	.45	2.09	4.81	.57	3.04	.10	.40	.08	T	T	11.56
88-9.....	.55	.00	4.28	4.63	.15	.33	6.25	.26	3.25	.25	.00	.00	19.95
89-90.....	.00	6.02	3.15	7.82	6 62	4 06	3.00	1.33	1.80	.00	.00	T	33.80
90-1.....	.80	T	.00	3.31	53	6.61	1.78	2.04	.66	.05	T	.00	15 81
91-2.	.10	.10	.48	3.28	1.78	2.84	3.02	1.20	2.38	T	.00	.00	15 18
92-3.....	.18	.70	6.60	4.90	3.27	2.66	3.51	1.08	1.05	.00	T	T	23.95
93-4.....	.22	.12	2.92	1.76	4.17	3.92	.74	.34	1.70	.46	T	T	16.35
94-5.....	.88	1.06	.48	8.86	8.42	1.84	1.20	.86	.51	.00	.04	T	24.11
95-6.....	1.26	.17	1.54	1.54	9.76	.09	2.57	5.34	.92	.00	T	.20	23.23
96-7.....	.31	.55	3.56	1.76	3.66	4.15	2.54	.25	.30	.04	.00	.01	17.32
97-8.....	.16	1.96	.61	1.64	.98	3.19	.04	.28	1.50	. 4	.00	.00	10.51
98-9.	.36	.64	.61	2.30	3 94	.04	6.02	.10	.54	.49	.00	.02	15.04
99-00.....	.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean.....	.18	.76	2.09	4.37	3.83	2.80	2.85	1.74	.80	.12	.03	.01	19.58

FOR SALE.—BEAUTIFUL ORANGE AND Lemon Groves in Glendora. Free from frost. Good supply of water. Good churches and schools. No saloons. Correspondence solicited. S. J MILLER, Glendora, Los Angeles Co., Cal.

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A Fine Fruit Ranch of 160 Acres;

100 acres bearing orchard. Modern improvements and implements. In Placer county, three miles north of Orangevale and Fair Oaks colony. Price $50 per acre. Address owner, R. D. WINTERS, Folsom, Cal.

FOR SALE.—FARM OF 160 ACRES WITH valuable improvements; a good dwelling house and all necessary outbuildings in good order; thirty acres in vineyard and orchard, only five miles from Sacramento. For particulars address P. H. MURPHY, Perkins, Sacramento County. Cal.

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Land especially suited for raising Winter Apples. No irrigation required.

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Open All Year. : A. VAN DER NAILLEN, Pres't.
Assaying of Ores, $25; Bullion and Chlorination Assay, $25; Blowpipe Assay, $10. Full course of assaying, $50. Established 1864 Send for Circular.



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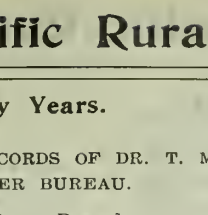
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300 HEAD,
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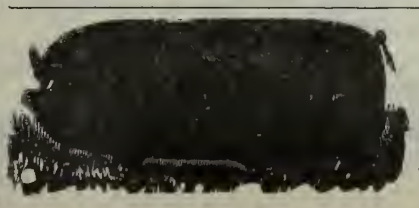
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HOLSTEINS—Winners over Jerseys of *every* butter contest at State Fairs for five years. This year every butter prize awarded went to my herd except 2nd prize for 2-yr.-olds. Stock for sale. F. H. Burke, 626 Market St., S. F.

JERSEYS, HOLSTEINS & DURHAMS. Bred specially for use in Dairy. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times. either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders, for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

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JERSEYS—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

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J. R. CATLETT, Pleasant Grove, Cal. Breeder of fine S. C. Brown Leghorns and Mammoth Bronze Turkeys. Leghorn eggs 50c for 13 or 11 settings for $5.00. Turkey eggs 25c each. Write for wants. Satisfaction guaranteed.

SANTA TERESA POULTRY FARM, Eden Vale, Santa Clara Co., Cal. Illustrated catalogue and guide free. Twill interest and please; send for it.

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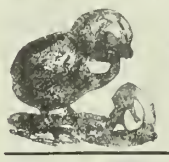
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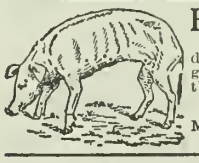
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—when your horse is fast seconds count on a record.

A little stiffness or soreness in leg or body may lose seconds and hence lose a record. Chills, congestion and inflammation are the enemies of speed.



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used in dilute form has no superior as a leg and body wash. Apply to the legs and bandage lightly. Apply to the body and blanket. Removes stiffness and soreness, prevents colds, congestion, and produces flexibility and firmness of muscles and tendons.

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For sale at all druggists. Sample bottle mailed for 6c to pay postage.

Veterinary Experience—full of valuable information—100 pages, FREE.

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BEWARE of all so-called Elixirs, none genuine but Tuttles.

Patrons of Husbandry.

Organization of the State Grange.

By Mrs. A. T. Dewey at the State Grange Meeting.

Twenty-six years ago, on the morning of July 15, 1873, an earnest little band of Patrons of Husbandry gathered from various parts of our loved State in the beautiful city of Napa for the purpose of organizing the California State Grange. The new arrivals on each train were met by Brothers Nash, Fisher, Gridley and other active members of Napa Grange. Twenty-eight Granges only were represented at this meeting by the Masters and their wives, who formed the charter members of the State Grange. The following was the list: Bennett Valley Grange, Sonoma county, Nelson Carr and wife; Chico Grange, Butte county, W. M. Thorp and wife; Dixon Grange, Solano county, J. E. Merryfield and wife; Elmira Grange, Solano county, J. A. Clark; Greyson Grange, Stanislaus county, I. G. Gardner and wife; Guenoc Grange, Lake county, J. M. Hamilton; Healdsburg Grange, Sonoma county, Thomas H. Merry and wife; Hollister Grange, San Benito county, J. D. Fowler; Merced Grange, Merced county, H. B. Jolly and wife; Napa Grange, Napa county, W. H. Baxter and wife; Pescadero Grange, San Mateo county, B. V. Weeks; Petaluma Grange, Sonoma county, L. W. Walker; Sacramento county, W. S. Manlove and wife; Salida Grange, Stanislaus county, J. D. Reyburn; Salinas Grange, Monterey county, N. N. Allen; San Jose Grange, Santa Clara county, G. W. Henning; Santa Rosa Grange, Sonoma county, George W. Davis and wife; Stanislaus Grange, Stanislaus county, J. D. Spencer and wife; St. Helena Grange, Napa county, G. B. Crane and wife; Suisun Valley Grange, Solano county, R. C. Haile; Grand Island Grange, Colusa county, J. J. Hicock; Temescal Grange, Alameda county, A. T. Dewey and wife; Turlock Grange, Stanislaus county, J. W. A. Wright; Vacaville Grange, Solano county, T. Hart Hyatt; West San Joaquin Grange, San Joaquin county, E. B. Stiles; Yolo Grange, Yolo county, William M. Jackson and wife; Yountville Grange, Napa county, J. M. Mayfield; Bodega Grange, Sonoma county, John H. Hegler and wife. Besides these there were present S. T. Coulter of Santa Rosa Grange, I. N. Hoag of Sacramento, L. M. Holt of Healdsburg and W. B. Ewer of Temescal.

The following officers were elected: Master, J. W. A. Wright; Overseer, J. M. Hamilton; Lecturer, Thomas H. Merry; Steward, N. L. Allen; Assistant Steward, W. H. Jackson; Chaplain, T. Hart Hyatt; Treasurer, W. A. Fisher; Secretary, W. H. Baxter; Gate Keeper, J. D. Fowler; Ceres, Mrs. George W. Davis; Pomona, Mrs. W. H. Baxter; Flora, Mrs. J. H. Hegler; Lady Assistant Steward, Mrs. I. G. Gardner.

It has been decided to hold the next annual session of the State Grange at Los Gatos.

At San Jose Grange.

The regular weekly session of the San Jose grange, October 14th, at Hale's Hall, was well attended and the meeting is reported by the *Mercury* a most interesting one.

Master Leigh gave a brief account of what he saw and heard at the State Grange, and spoke in regard to the importance of the San Jose Grange doing everything possible next year to assist their brothers of the Los Gatos Grange in the entertainment of the State Grange.

Worthy State Master Worthen spoke briefly of what he hoped to do in his position during his term of office for the advancement of the interests of the Grange and to promote its growth in the State. He said that in no part of the State was there a better field for the Grange to begin its growth than in Santa Clara county, and with the help of the patrons in this valley he hoped to see the Grange make rapid progress.

E. T. Pettit spoke of the long and valuable service of Cyrus Jones as a member of the State Executive Committee and of the unselfish manner in which he had acted in resigning the position that he might not stand in the way of the highest office in the Grange being given to this county.

Following this a vote of thanks was given Mr. Jones for his past valuable services and the sacrifice he had made that the Grange might be further honored.

Mr. Jones thanked the Grange for their expression of appreciation and told of some of the difficulties encountered in the position that he has held for so long.

Professor Childs gave an interesting half-hour talk on the relation of history and geography.

At the meeting of October 20th, the subject of "What the Grange May Do for Good Government" will be presented by Mesdames Worthen and Woodhams in papers and further discussed by the members of the Grange.

The committee to whom was given the work of investigating the weather and crop service presented the report appended and at the conclusion of the same the committee was reappointed to carry out the recommendation made, that a weather station bureau be located in this city and to co-operate with the committee appointed from the Farmers' Club and the Board of Trade in helping to secure the same.

Permanent Committees.

The following permanent committees have been appointed by Worthy Master Worthen to serve for the ensuing two years:

Committee on Co-operation—S. P. Sanders (chairman), San Jose; A. P. Martin, Petaluma; Thos. Jacobs, Visalia; D. T. Fowler, Berkeley; Mrs. O. E. Borrette, Napa.

Judiciary Committee—S. T. Coulter (chairman), Santa Rosa; J. D. Huffman, Lodi; D. M. Winans, Petaluma: Mrs. Mira Reese, Sacramento; C. J. Berry, Visalia.

Legislative Committee—E. F. Adams (chairman), San Francisco; J. L. Beecher, Jr., Stockton; W. M. Sims, Sacramento; Mrs. D. R. Adams, Wrights; J. S. Taylor, Napa.

Committee on Good of the Order—H. C. Rapp (chairman), Martinez; Mrs. R. S. Twitchell, Grass Valley; Miss Libby Wood, Danville; Mrs. Jennie Gould, Roseville; Nathan H. Root, Stockton.

Committee on Order of Business—W. M. Johnson (chairman), Courtland; H. F. Blohm, Aromas; W. D. Houx, Petaluma; Daniel Flint, Sacramento; Mrs. C. S. Hayward, Pescadero.

The American Antiquarian for September has an interesting article on "Prehistoric Irrigation," which is illustrated by several plates.

FITS Permanently Cured. No fits or nervousness after 1st day's use of Dr. Kline's Great Nerve Restorer. Send for FREE $2 trial bottle and treatise. Dr. R. H. Kline, Ltd., 931 Arch St., Phila'a, Pa.

Some Business Notes.

A Pacific Rural Press representative made a trip during last week to Sacramento and Stockton. From his observation he makes the following notes:

The farmers and fruit growers are making preparations for planting and seeding a large area in orchards and cereals. Dealers and manufacturers of agricultural implements are anticipating large orders in their line of goods. The Holt Mfg. Co. of Stockton have just completed a fine brick structure, 80x160 feet, to be devoted to the manufacture of traction engines. In addition they have laid the foundation for a new structure, 70x180 feet, for their combined harvesters. When completed their plant will cover nearly two blocks. The old Matteson & Williamson Mfg. Co. have sold their establishment to a firm recently organized, and the capacity of the large plant will be greatly increased. The H. C. Shaw Co., the pioneer dealers in agricultural implements, have anticipated a large demand for the Shaw forced-feed plow drill and have doubled their force of operatives to be able to fill orders. The Moline Plow Co. of Illinois have established a large distributing house, near the two lines of railroads in Stockton, to supply dealers with agricultural implements and machinery. The Stockton Implement Co., under the management of J. J. Burkett, has a large and well selected stock of all kinds of agricultural goods as also a full line of vehicles. There is a general feeling and anticipation that the coming season will be alike advantageous to the merchant and agriculturist.

Fence literature might be expected to be rather dry but the Page Woven Wire Fence Co., of Adrian, Mich., issue a "Fence Age" which is anything but dry. Send for a copy.

Clayville, N. Y., Aug. 28, 1893.

S. A. Tuttle, Boston, Mass.

Dear Sir:—Your Elixir worked to a charm on the enlarged leg, and took all inflammation and swelling entirely out of the leg. Enclosed find $2.00. On receipt send me at once a half dozen more bottles of your Elixir. Yours, etc.,

W. H. DEWING.

Telephone Main 199.

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BUY THE BEST.

If you want the best low down wagon you should buy the Electric Handy Wagon. It is the best because it is made of the best material; the best broad tired Electric Wheels; best seasoned white hickory axles; all other wood parts of the best seasoned white oak. The front and rear



bounds are made from the best angle steel, which is neater, stronger and in every way better than wood. Well painted in red and varnished. Extra length of reach and extra long standards supplied without additional cost when requested. This wagon is guaranteed to carry 4000 lbs. anywhere. Write the Electric Wheel Co., Box 10, Quincy, Illinois, for their new catalogue, which fully describes this wagon, their famous Electric Wheels and Electric Feed Cookers.

The Bits of Common Sense Series by Marion Harland is a most valuable premium. We send the whole set of four volumes to new subscribers free of charge.

Visitors to Modesto who may require conveyances to take them into the surrounding country will find at the Empire livery stable, run by Boone & Hambleton, everything that they may require, at reasonable prices. The stock and vehicles are all that could be asked for.

The Tynan Hotel, at Modesto, Cal., is one of the best conducted houses in the San Joaquin. Its proprietor, J. M. Pike, is an old-time caterer of San Francisco, and he understands his business. The Tynan is very popular with the traveling public.

FOR SALE.

A ZIMMERMAN (Factory Size) FRUIT EVAPORATOR.

In use one season. For particulars, address A. O. NELSON, Gertrude, Cal.

THE RAISIN INDUSTRY.

By GUSTAV EISEN.

This is the Standard Work on the Raisin Industry in California. It has been approved by Prof. Hilgard, Prof. Wickson, Mr. Chas. A. Wetmore and a multitude of Practical Raisin Growers.

Sold only by The Dewey Publishing Co., or its agents at the uniform price of $3.00, postage prepaid. Orders should be addressed:

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Deciduous and Citrus Nursery Stock.

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Address 536 Byrne Building, LOS ANGELES, CAL.



EXHIBIT OF ENSILAGE CUTTERS AND SILO AT STATE FAIR.

There is so much general interest shown in ensilage and silos that the State Fair management made this one of their special features. A large stave silo was built, corn secured and cut into the silo under direction of a representative from the State University, and the process of providing feed for fall and winter use fully demonstrated.

The ROSS ENSILAGE CUTTER with its Swivel Elevator, as shown in operation, was purchased and is now in use filling a large silo erected by the Wm. Meek Estate at Haywards, where it can be visited by those interested.

G. G. WICKSON & CO., General Agents Ross Engilage Cutters,

34 & 36 MAIN ST., SAN FRANCISCO; ALSO LOS ANGELES, AND PORTLAND, OR.

Save the Pennies.



The butter fat left in the skim milk by the old process of dairying would go a long way toward educating the boys and girls if saved and converted into fine flavored, high quality butter. **The Sharples Separators** will save the butter fat and make it sell at the highest market price. Learn all about them in our free Catalogue No. 31.

The Sharples Co., Canal & Washington Sts. CHICAGO. **P. M. SHARPLES,** West Chester, Pa. U. S. A.

FRUIT MARKETING.

Raisin News.

The new crop of raisins is being shipped East by the packers at the rate of from forty-five to fifty-five carloads a day. The demand for three and four-crown standard loose Muscatel raisins is considerably greater than the supply and jobbers are likely to get prices above those set by the California Raisin Growers' Association before the packing season closes. Layers are also scarce, owing to the reluctance of growers to go to the expense of selecting their choice bunches for layers. The demand for this class of raisins is brisk and prices are held firm.

Good Prices for Muscats.—The wineries in the raisin districts of the State that demurred to paying $10 for 24% Muscat grapes, are now taking all they can get at that price, some paying $10.50.

Selling Fast.—Nearly all the raisin packing houses are running night and day, packing and seeding raisins to fill pressing Eastern orders. Most of the packers have confirmed and sold 75% of their crop allotment, and have made application to the California Raisin Growers' Association to be permitted to sell the remaining 25% at the advanced prices made October 7th. This permission has been granted.

Rain Damages.—The rain of Thursday and Friday, it is feared, will do some damage to the raisins in the fields, even where the trays were properly stacked, as the rain may have forced its way into the stacks and beat up the sand on the bottom trays. The raisins wholly exposed, through the neglect of the growers to stack them up, will be damaged to such an extent that the inspectors employed by the California Raisin Growers' Association will place them in the inferior grades. It is too early to even approximate the damage until the reports are received from the growers.

Trustworthy Growers.—The California Raisin Growers' Association has been watching for an opportunity to enforce the growers' contracts and make an example of those who violated its terms. It is highly creditable to a membership exceeding 2100 growers that only three out of that large number have been found thus far who have made a breach of faith with the Association. These have sold their crops to outside packers, in direct violation of their contracts, and the directors of the Association have brought suit against them and will push the cases to the limit of the law, and make an example of the offenders.

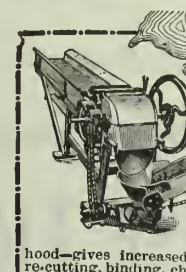
San Jose Dried Fruit Gossip.

With the exception of prunes, the dried fruit market is in an active condition, although in New York they seem to have an idea that possibly there may be a very large crop of cured peaches. If they knew the exact figures, an activity and advance would begin there at once. Locally, peaches bring from 5 to 8 cents, the basis being 6½ to 7 cents for choice. It should always be remembered that the screens of the Fruit Exchange and the fruit unions are all ¼-inch larger for the given grades than those used for the same grades in the private packing houses. A person who has carefully observed tells us that the packing houses process their prunes much heavier than the standard adopted by the Exchange and the unions, and that partial tests made in the same grades have shown the union and exchange fruits several points heavier than the same grades from several packing houses. At the basis price—3 cents—they are furnishing 50-60, 60-70 and a small percentage of 70-80. From 80 to 100 there is ¼ cent premium, 30 size are worth 7 to 8, and 40 size 5½ to 6. Private advices from New York report a feeling among dealers that extensive operations in prunes will take place.—Tree and Vine.

L. M. Holt of Los Angeles has compiled a very interesting rainfall chart in colors giving the rainfall at San Francisco and San Diego for fifty years and Los Angeles for twenty-seven years. It is published by Geo. Rice & Sons of Los Angeles.

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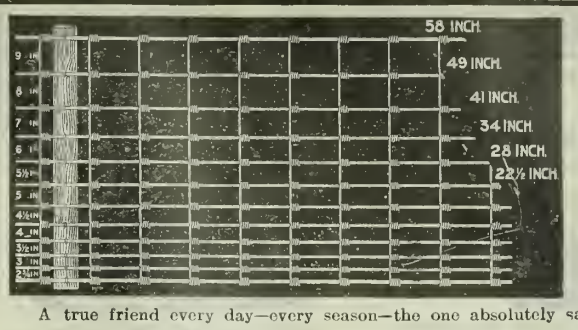
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PAGE
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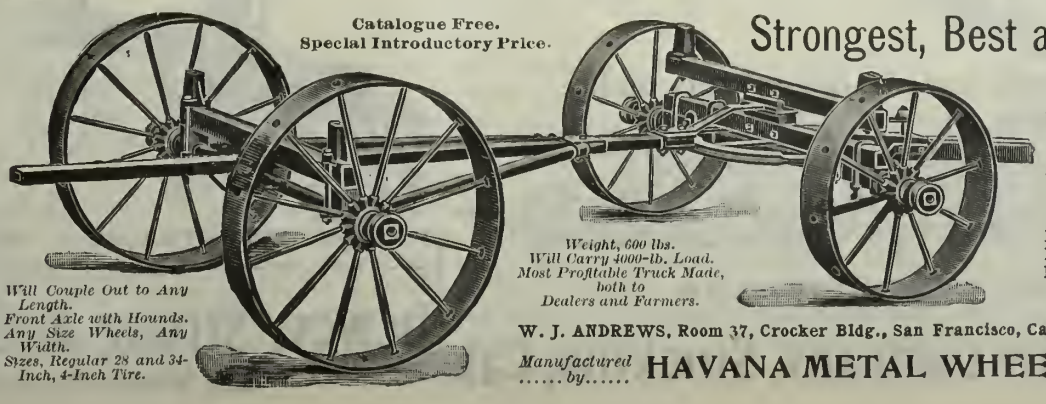
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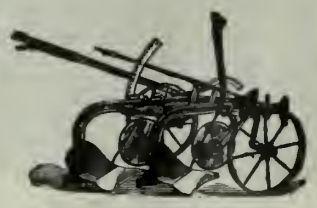


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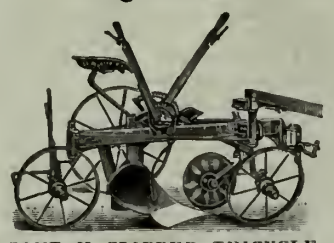
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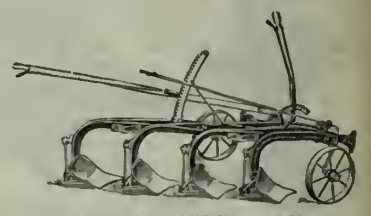
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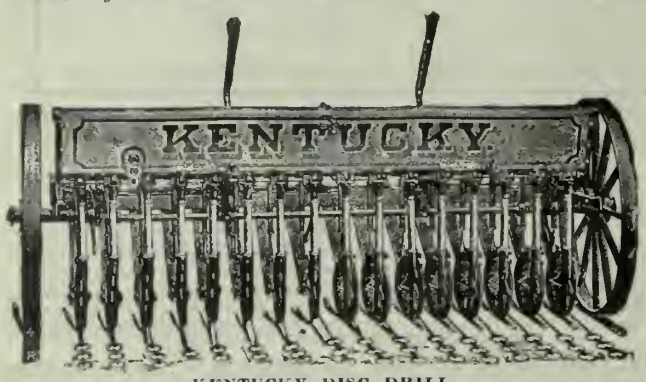
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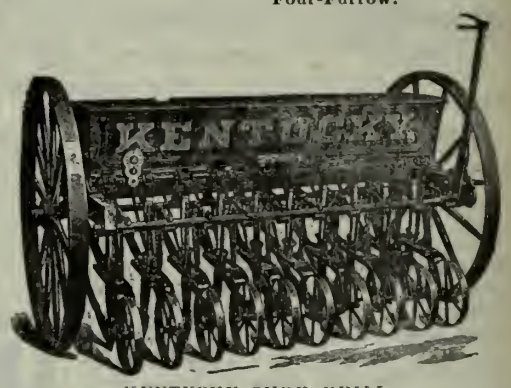


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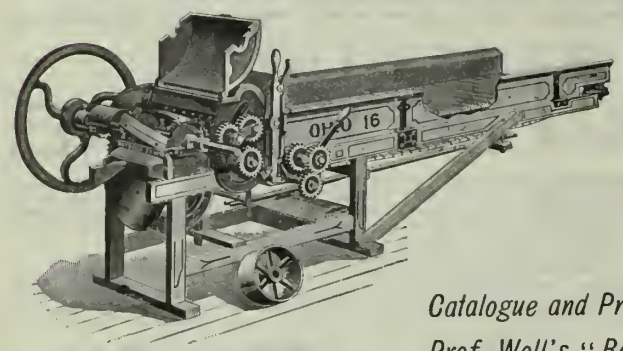


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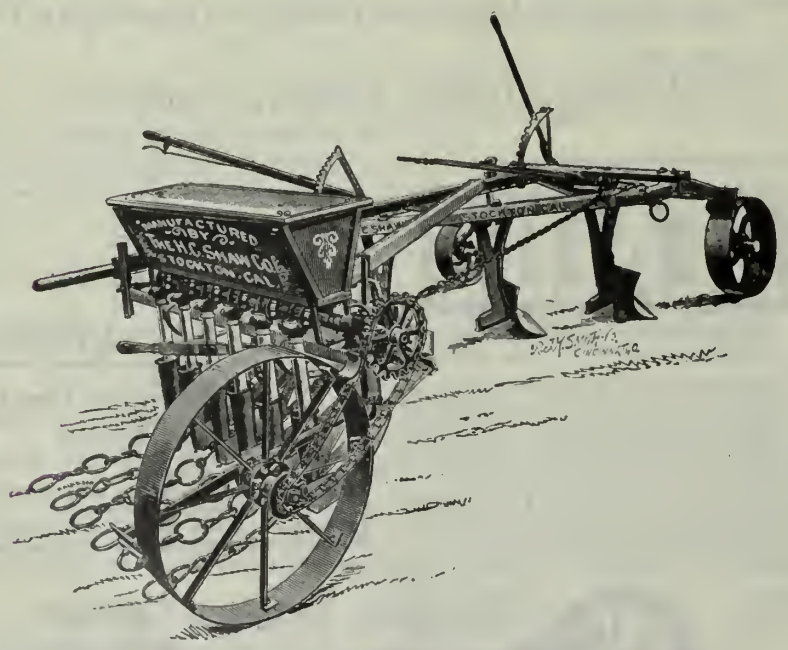
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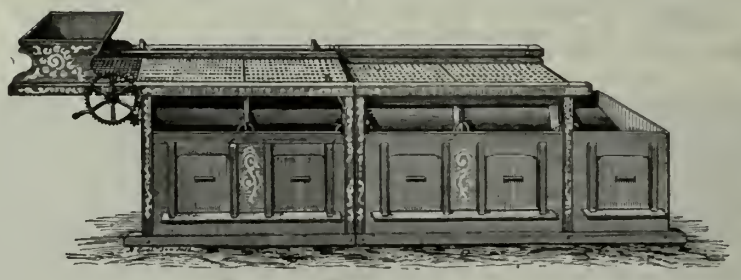
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Vol. LVIII. No. 18. SAN FRANCISCO, SATURDAY, OCTOBER 28, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

American Steel and Wire Co.'s State Fair Exhibit.

Wire probably plays a more important part in modern life than any other one product of our industries. The extent to which it is used may be realized perhaps from the statistics of the iron and steel wire manufactures of the United States. Every year this country produces about 1,000,000 tons of iron or steel wire. Reduced to pounds this gives 2,000,000,000 as the annual output of the wire mills, or about thirty pounds of wire for every man, woman and child in the United States. If all of this were drawn down to a diameter of $\frac{26}{1000}$ of an inch, one of the larger sizes used for banjo and mandolin strings, it would make a string more than two hundred million miles long, or enough to wrap around the earth 40,333 times, or to form a two-wire metallic telephone line to the sun. The metal which goes to make up this enormous mass of wire is about 10% of the entire output of our iron mines, and the finished product is equal in amount to the average production of railroad rails, and is probably more than enough to form the frames of all the great steel sky scrapers erected in the whole country during the year.

It would be as easy to enumerate the things in which wire is not used as it would be to give a list of those of which it forms a part. Your spectacle bows are made of wire, the rivets of your pocket knife are wire, your shoe heels are held together with a wire product and you wipe your feet on a wire mat. Your wife is apt to have wire or wire products spread about her costume from head to foot. Her hat frame is often of wire, its flowers are built on wire stems; she fastens it to her head with pins of wire; her girdle and its dependent ornaments are often wire products, while her parasol or umbrella is largely made of wire. We sleep on wire mattresses, we travel on cars drawn by wire cables and we depend upon wire for all the communications we have with one another over the telegraph or telephone. When we fly great kites for scientific purposes we often use wire for a string, and we could not explore the depths of the sea without wire sounding lines. We fence our fields with wire and nail our houses with wire nails. This last use for wire is comparatively new, but it is probably now the largest one that exists. The wire nail was invented abroad. Twenty years or so ago the only places where it was seen in this country were in foreign packing boxes, in accordions and cigar boxes. These nails were all made of iron, with thin, flat heads, which were usually very ragged about the edges. The nails or heads in general use then were of square sections cut from strips of iron. To-day the cut nail has almost disappeared from general use and has been replaced by the wire nail. To drive a nail, when the tapered cut nail was the only one to be had, was an art which it was said a woman could never acquire, but any one can drive a wire nail. The way in which the wire nail has displaced the cut nail is shown in these figures: In 1866, out of a total production of 8,760,000 kegs, only 600,000 kegs, or 6.9% were made of wire. In 1896 the total production was 6,335,730 kegs, and of these 4,719,800 kegs were wire nails, or 74.5%. Each keg weighs 100 pounds, so that of the 2,000,000,000 pounds of wire made, this industry alone consumed 633,573,000 pounds, or about one-third. Another third is used for making barbed or plain fence wires, the other third going into the innumerable manufactures of the country, from the material which forms the hook that enables the fisherman to take his prey, to the bicycle spoke or the vibrating cords of the piano or mandolin. Without wire we could not card our wool or cotton to prepare it for shipping, nor make a loom to weave it into cloth. To-day even the largest cannons are built of wire, and England has already got a number of big guns in service made of this material, which have proved themselves far superior in many ways to those built of more solid sections. No dynamos, motors or other electrical instruments of any kind could be made without wire. The strongest of all the wires made is that for pianos and other musical instruments. This is of fine steel and tempered, and it is calculated to be able to resist a strain of 424,000 pounds to the square inch of section.

The wire cloth makers, who make all kinds of fabrics from mosquito netting to fence cloth with meshes six or eight inches square, use enormous quantities of wire, and another great quantity is used in making the spiral springs which are used in all kinds of upholstered furniture.

The general manner of making wire is first to roll the rods down to a convenient size for handling, and then, after tapering an end, to pass the rod through tapered holes in a plate, which grow successively smaller and smaller. The wire is drawn through these holes by means of tongs, which grip the tapered ends, and then it is wound on reels. The drawing hardens the material, and it has to be annealed at frequent intervals by heating. In drawing very fine wires of gold or silver or other precious metals the draw holes are often drilled through diamonds or rubies, and the making of these plates is a special industry.

There are more than 1000 sizes of wire made, ranging in measurement from the minimum of $\frac{1}{1000}$ of an inch in diameter.

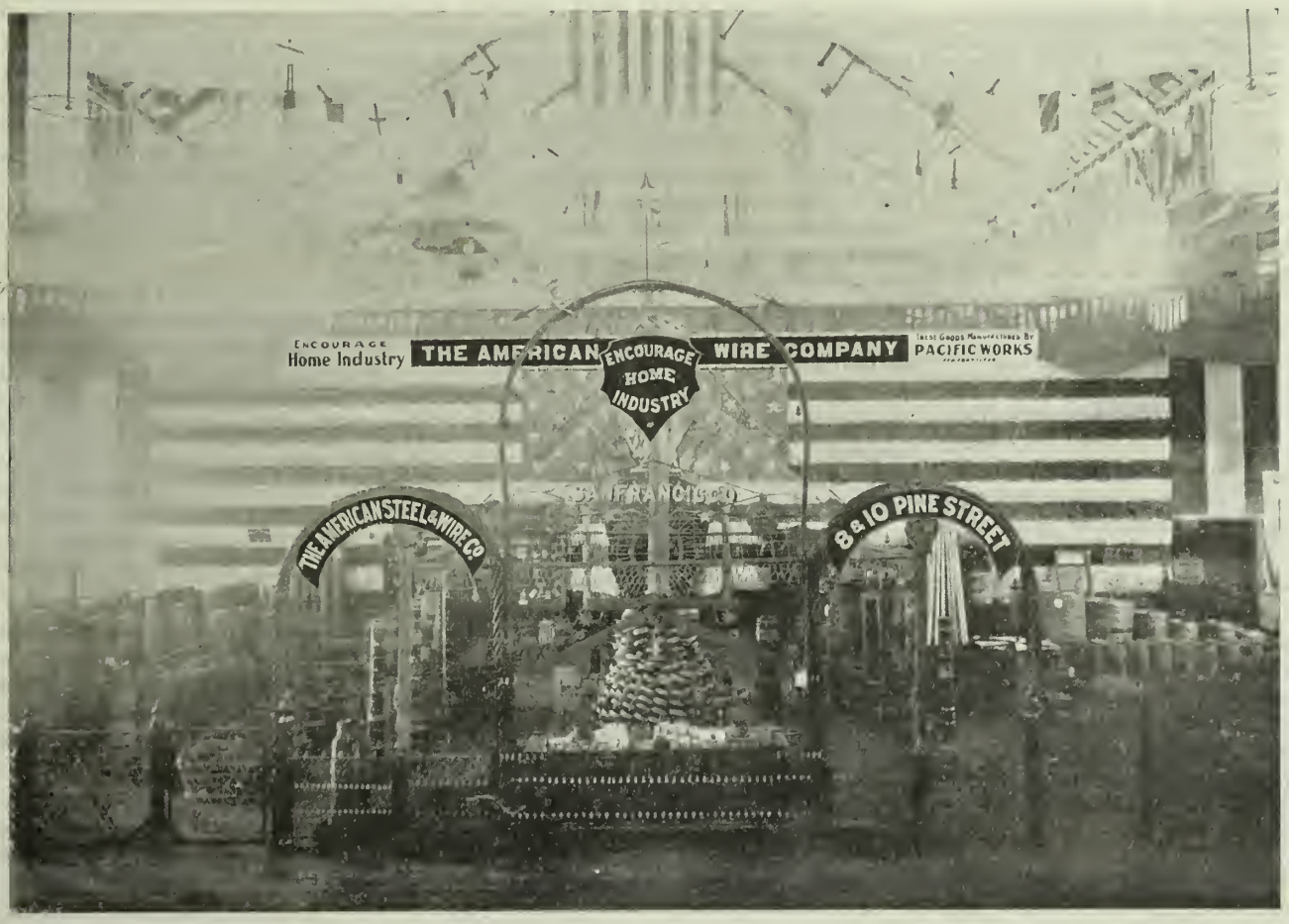


EXHIBIT OF THE AMERICAN STEEL & WIRE CO. AT THE CALIFORNIA STATE FAIR AT SACRAMENTO.

This great output of a million tons of wire in the United States is practically all manufactured by the various mills of the American Steel & Wire Co. This company comprises some forty-two mills, located in the most advantageous manufacturing districts of the United States. The American Steel & Wire Company's product is vastly greater than that of any other company in the world. They lead all other wire manufacturing concerns in the world as regards the volume of their output and the variety and extent of their manufactures, which comprise wire of every description, and everything made from wire—barbed wire, plain wires of every description, field fencing, poultry netting, wire ropes and cables for logging and mining, street railways, tramways, ropeways, etc., copper and insulated wires for electric light and power companies, electric street railways, telephone and telegraph companies.

In addition to the wire products proper produced by this company, they also manufacture a great many specialties, such as the Shoenberger horseshoes, Shoenberger boiler plates and sheet steel, Cleveland cold-rolled shafting, chain of every description, double-pointed tacks; in fact, their line is so extensive that it is one of the greatest manufacturing institutions in the world. Their trade compasses every part of the United States, as well as North and South America, and they are making extensive shipments to all foreign countries, China, Japan, Australia, Java, Turkey, England and the Continent, as well as to St. Petersburg and Vladi-

(Continued on Page 287.)

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E. J. WICKSON.....Horticultural Editor.

San Francisco, October 28, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The rains have continued and have already brought October into the circle of good rain months; but it does not follow that with October goes the year, because we have had wet Octobers and very dry years afterwards. Still there is no use worrying about that. Over a great area of the State rain enough has now fallen to start the grass and put the land in good condition for plowing, and that is warrant enough for general activity and confidence. The rain above the Tehachipi has been very heavy and the snow has begun to heap up upon the mountains, and there is every reason to expect that other features of a good year will develop in good time. We hear already of the disposition to plant fruit trees, and we have many inquiries as to suitable varieties. It will be a good plan to open correspondence early with the nurserymen, for we anticipate quite a run on the popular sorts. We have fewer nurseries than formerly, and their goods should be in good demand this year, owing to the vast amount of money which has been brought to California for frult products, and the future demand which is promised by the activity of buyers for new markets.

There is practically no change in spot wheat. Barley is firm for desirable grades, with a good market for export grain. Oats are firm, active and higher. Millstuffs are about the same as last week. Hay is a little firmer for choice grades. The leading feature of the week is in the bean market—large whites having made a sharp advance. Dried fruits are strong but not active. The only quotable change is in evaporated apples, which are marked up ½c, and only few are to be had at that price. Butter and eggs are weak with downward tendency. The poultry market is glutted with Eastern stock.

SECRETARY LELONG of the State Board of Horticulture, after conference with the local committee in reference to the meeting of the fruit growers' convention in San Jose, has decided to hold the convention on the 12th, 13th, 14th and 15th of December. This avoids the collision with the Jubilee.

A CONSULAR report says there is a good field for American nursery trees in South Africa, and he believes also that insecticides and spraying outfits could be profitably introduced. California inventors have much that is new in these lines which might be pushed with advantage.

Gulliver's Travels.

The gullibility of people passes comprehension. It has been seriously analyzed, measured and traced to its remotest rootings in the human mind and no conclusion is more profound than this, that after all people seem to like to be swindled. No other theory seems to more fully explain why people can be continually imposed upon. Some even proclaim the pleasure of having found men smarter than they are, and, having found, they are willing to pay tribute, just as the pummelled pugilist may, in the face of the crowd, give forth rejoicings that he has met a better man.

Still there seems no reason why people should rejoice in being swindled in the same old way. We can conceive of some interest pertaining to being taken in by a man with a new game and of some pride in measuring wits with swindlers on new and untried propositions, but we can not summon much admiration for the gullibility of people when it is manifested in the continued success of the shell game or the longevity of the gold-brick business. And yet these things live, and when the police, having their eyes on the swindler whose record they know, interfere, the victim usually manifests more indignation than the swindler. It is a fact that some people have almost to be locked up in the station house to prevent them from jumping into open traps.

Another form of swindling which seems to withstand the flight of years and to be always powerfully attractive, is that of the bogus commission merchant. No matter how many times people are cautioned against entrusting their property to people they know nothing of, or whose responsibility they do not take the trouble to investigate, it is always being done, and a sharp loafer is thus enabled to possess himself of the hard earnings of many confiding people before his game is up and he has flown, to open again in a new place. In spite of all the police and the mercantile agencies and the whole postoffice department of the United States can do to stop this form of swindling, it still thrives, and always finds so many birds flocking near that it does not even have to change the form of its blind.

In spite of this fact, every journal feels called upon occasionally to publish the oid warning and to feel real sorrow and chagrin that its own parishioners should in some cases have caught the common malady. The matter comes this time in a very pointed form, and is so well presented by our correspondent that little comment is necessary.

TO THE EDITOR:—Some time in January last there came to Napa a man named Wilson claiming to represent the "Northern Commission Co.," of Seattle, Wash. He offered fair prices for fruit and promised prompt payments. Hoping to find a new market for at least a part of our green fruit, and thus avoid the usual depression in our home market, many of us hereabouts shipped to this Seattle firm. A few payments were made on small first shipments, and returns for the later and heavier shipments were and still are withheld. In the course of the season Wilson was relieved by his partner, Robertson, and went home. Robertson continued to buy fruit, giving various plausible excuses for the delay in remittances, and finally he also disappeared, and I suppose our season's transactions with the mythical commission company on the Sound may be considered closed.

It is believed that Wilson, Robertson & Co., of 1204 Western Ave., Seattle, are ahead of this community at least $1500. The writer of this is not a very great sufferer, and can stand his loss. He considers it his duty to notify fruit growers of other sections of this State of the above facts, as this enterprising firm will probably undertake to do business elsewhere next summer.

I enclose a letter from Mr. Wilson (unsigned) which was intended to assist his partner to close up the season's business and get away. The PACIFIC RURAL PRESS will render valuable service to the fruit growers of California by publishing this matter. D. J. BROWN.

Napa, October 9.

SEATTLE, WASH., August 17, 1899.

David J. Brown, Napa, Cal.—DEAR SIR—On July 28th we sent out a number of checks, in which you were included, with payment in full for all fruit shipped.

Our Mr. Robertson informs us that you have not received it. We are much concerned, as none of that mailing reached destination. We have been a little at fault in using a plain envelope to carry remittance, and are at a loss to know if they went astray or the mail was destroyed. We send you another check next week to cover the amount.

NORTHERN COM. CO.

Such is the record of the case. All that we can say is that no matter how well the talking is done, or how assuring the presence of the talker, or how seductive the wording of the circular by which the same kind of business is frequently done, the grower should simply be steel to all such solicitations unless reference of business standing of the solicitor is not only given, but is used by the intending shipper before his property goes out of his hands. One may safely trust his property to a man of small means, perhaps take all the risk of having it handled without adequate financial ability, but no one should entrust property to an agent who can not show at least a good business character. Business character is quite easily certified and can be easily learned. All dealings in good produce, which represents years of toil and investment, should be with responsible parties. There are ways enough to lose money honestly, and there are tricks enough in the trade which work against the shipper in one way or another in the best available means of traffic, but there is little excuse for being caught in confidence games and other forms of swindling under the guise of commercial forms.

And yet such things go on. People will lose heavily and contribute to the support of smart, irresponsible and designing solicitors, and yet they are very slow to give an hour's time or a little money to the establishment of means by which they can be readily informed of the standing of those who propose to deal with them. Every grange, every farmers' club, every fruit association, can easily secure information of the needed sort at a cost which would little tax its membership, and yet too many people hold aloof from all such co-operative efforts and lose more by the arts of the swindler in a month than these efforts would cost them in the whole course of their natural lives. It is often said that the business end of the farm should be conducted in a business-like way, and yet neither the truth nor the triteness of the claim seems to widely and deeply impress people. We can but hope that at least for a year, however, the publicity which we give to the above transaction may, as our correspondent says, serve as a warning to others not to be caught in the same way. This is about as much as we can hope from it.

PROF. EMORY E. SMITH of Palo Alto is taking much pardonable pride in the fruiting of a collection of nearly thornless prickly pears, which he secured when in the Mediterranean region a few years ago. The plants have fruited before, but this year have reached maturity enough to reproduce their typical forms and to bear fruit in great profusion. He has seven varieties, secured in Malaga, Palermo, Algeria and Morocco. They are of great size, some fully 4 inches in length and 2½ inches in diameter, and of a variety of handsome shades of color, from a deep wine to a dark yellow. Prof. Smith speaks warmly of their deliciousness, both as a table fruit and as a source of jelly of the most delicious flavor and charming color. In the south of Europe, where these improved varieties are very highly esteemed, they occur at certain times of the year in such profusion that they are called the poor man's bread-fruit. They are sold by peddlers at low prices, and seem almost a mainstay of poor people during their season. The exhibit which Prof. Smith makes of the fruit is very interesting, and would indicate that the varieties should be widely distributed in the arid parts of the State.

A MEETING of the directors of the State Board of Agriculture was held last week, when a statement of the financial condition of affairs was submitted. It showed a very pleasing result, owing to the great success of the late State Fair. The committee on the sale of Agricultural Park reported that it had been unable to get a satisfactory bid for the property or to get an offer on a new site. The recommendation was made that the old park be used until a satisfactory offer is obtained, and the probabilities are that the society will continue to use the present park for some time to come.

JUDGE HAWLEY of Nevada has rendered a decision affirming the right of an individual, upon his paying the rates, to be supplied perpetually with water by a corporation engaged in the business of selling water. The company was not justified in shutting off the water or in demanding of him a renewal of the former contract as a condition precedent to his right to the continued use of the water upon paying the legal rate fixed for supplying it.

QUERIES AND REPLIES.

Trial Growth of Lupins.

To the Editor:—I received some lupin seed by application to the University as suggested about a month ago in the Pacific Rural Press. How shall I grow it? Would you sow it in drills and cultivate so as to secure more seed?—Orchardist, San Jose.

The seed should be sown as soon as possible and can be broadcasted and harrowed in. The depth of covering is not particular—anywhere from half an inch to an inch and a half, if the soil is rather mellow. In a heavy soil a covering should not exceed an inch this time of year. You can sow in drills if you wish to grow the seed, but the main point is to determine whether this plant will start early enough to make sufficient growth before February, so there will be a large amount of green stuff to plow under. There is some reason to think that it may not grow early enough and will insist upon waiting until there is considerable heat in the spring. If this is the case, it is not well adapted for green manuring in orchards, and this is just the point which the University desires to determine for the different parts of the State, with the assistance of interested orchardists like yourself. Of course, part of the seed could be used for this experiment, and part could be sown in drills to get the seed crop if the first experiment prove satisfactory.

Grafting Over Prunes.

To the Editor:—I have an orchard of four-year-old prune trees on peach roots and am intending to change the orchard to apricots. Can I cut off the prune wood and graft on the peach root, or would you advise me to plant young trees?—Grower, Ventura county.

On the whole, you will probably get better results by planting apricot trees than by attempting to graft over the trees you have. If it were a small piece of ground, well fenced, protected from jackrabbits and other intruders and the grafts well staked as they grow, you might graft on the root and succeed in getting a bearing orchard a little sooner, but there are so many dangers of such grafts being broken off, or of blowing off after they get a considerable size, that the proposition is rather difficult. You can graft apricot scions into the prune wood higher up. Some find that satisfactory, but the apricot wood will probably overgrow the prune, and at the same time its growth will be less free than if it should come directly upon the peach. For these reasons we are inclined to think that thrifty young apricot trees would give more satisfactory results than you can reach by grafting over. If any reader dissents, we shall be glad to hear from him.

Freaky Behavior of Fruit Trees.

To the Editor:—Your reply to Mrs. Hetty A. Dunn in last week's Pacific Rural Press looks reasonable. I have 1000 apple trees, set out in 1893, which produced a good crop last year, but this season the trees bloomed, set apples every month and all dropped off. The orchard has not been irrigated at any time and has been rather stunted for lack of water in the last two dry years. There is an orchard on Ventura avenue, planted the same year, with the same varieties, etc. It has had plenty of irrigation and good cultivation and still has been blooming, setting and dropping fruit the same as my trees. I will admit my trees have had too many dry years, but the orchard referred to could not have had better attention, particularly in the way of irrigation. Can you explain?—O. P. Cook, Montalvo, Ventura county.

We shall be glad to have more testimony on this point. Let all write what they have seen and the matter will become more intelligible.

Grasses for Partial Shade.

To the Editor:—What are the best grasses or forage plants to grow in the forest of pine, oak and madrone—in part quite dense and others quite open. The soil is a loose, sandy loam and reasonably moist. —Reader, Sonoma county.

According to California experience, the best grasses to grow in partial shade and also the best to withstand a moderate degree of drought and live all through the dry season are Orchard grass and Australian rye grass. You can try them separately, or sow a mixture of the two. These will probably meet your desires, unless the situation be too dry. Everything seems to depend upon the presence of a certain degree of moisture during the latter part of the summer; but, if they turn yellow at this time, they will start again from the root early in the autumn, and there will be a very short period in which they will not be sightly or valuable for grazing.

Bermuda Grass.

To the Editor:—What is the grass of which I enclose specimen? Will it do to make a turf on hillsides and how can it be best started.—Outing, Marin county.

The sample which you enclosed is Bermuda grass. There is a grass growing on low places which very closely resembles it in habit and in the seed head, except that the Bermuda grass has five fingers and the others not so many. Bermuda grass is about the most hardy, low-growing grass that we know of and will stand almost any amount of drouth without being killed. It is, however, quite susceptible to frost, not to killing, but the touch of frost turns it brown and it then becomes unsightly during the winter season. In the spring it will make a new growth and be green during the summer. It is difficult to get a start of Bermuda grass, because it produces very little seed. It is usually propagated by taking the running roots, which can be dug out from the ground in large quantities, running them through a hay cutter, cutting into pieces about an inch or more in length, each of which will make a new plant when slightly covered under the surface. Cutting a lot of these roots in the spring, about the time when growth would start, and planting here and there, a few in a place, would be about the surest way to get a grass started. You can, however, buy seed, but the starting would be slower and less certain than by the use of roots.

There are several grasses which do well on rather dry situations in California, but they all have a tendency to make clumps and tufts. According to our present knowledge it is rather hopeless to expect to get anything like a smooth turf in California without using lawn grasses and abundant water.

The Brome Grasses.

To the Editor:—I have lately come to California from the central West and would like to know how Brome grass succeeds here.—Newcomer, Santa Cruz county.

The Brome grasses, both the Hungarian and Schrader's, are very satisfactory in California where the soil is not too dry. They usually maintain their life during the summer in situations near the coast, though they may fail on dry hillsides even in the coast region. Australian rye grass, which is a variety of English rye grass (*Iolium persenne*) is a good grass for moderately dry situations in this State, and has been especially mentioned with favor by experimenters in the Santa Cruz mountains.

Tobacco Publications.

To the Editor:—Will you kindly inform me where I can get information on the culture and curing of tobacco; also how soon the report on the Florida tobacco industry, as spoken of in the Pacific Rural Press of October 14th, will be issued, and where I can get the report?—J. Granger, Danville.

We can furnish, postpaid, for $2 the "Tobacco Leaf," a very carefully prepared book of 500 pages, describing all the processes of tobacco growing and curing as practiced in the East and South. It does not apply directly to California, but it is very suggestive. The report to which you allude will be published by the Department of Agriculture at Washington.

Flax for Fiber.

To the Editor:—Will you please give names of those who are growing flax for fiber or for seed or both?—Subscriber, San Francisco.

We are not aware that any flax is grown for fiber except in experimental quantities by parties who perhaps are endeavoring to invent a satisfactory machine for the extraction of the fiber. Flax can be grown almost anywhere that wheat or barley can be grown, but there has never been a market for the fiber. Consequently, growers have given attention only to the seed. The seed crop has, however, fallen into disrepute because of the low market price of the seed, very large productions in the central portions of the country having supplied the demand, and sometimes in recent years flaxseed oil has been brought here from Chicago to supply our local demand for less than it can be manufactured from the seed grown here. These facts have decreased the local flax product.

A Grass for Coast Gulches.

To the Editor:—I am about to begin clearing some land on my farm near Aptos, Santa Cruz county. The soil is light and inclined to be sandy. The same character of soil adjoining raised a good corn crop. About two acres of the piece is a gulch, which I will not clear, as the land is rather too steep to plow. Can you tell me of a grass that will probably grow there and make green feed after a hay crop has been harvested?—A Subscriber, Oakland.

The best grass we know of for such a place near the coast is Australian rye grass. It will be pretty expensive to cut a hay crop on uncleared land which is too steep to plow, but you can experiment with that proposition. The grass named will make pasturage at least. It has been shown to be very good in partly shaded places in Santa Cruz uplands.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Oct. 23, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has been below normal in all parts of the State. The rainfall in the central and northern sections has been unusually heavy for the season and light in southern California. Ample warning of the storm had been given, and but little damage was done to the second crop of raisins, except to fruit still on the vines, which in some localities suffered quite severely and will be sent to the wineries. Beans and grain in sacks were also somewhat injured, and farm work was retarded. In some sections there is still a considerable amount of grain unthreshed, owing to a scarcity of threshers, and this work was further delayed by rain. All sections have been greatly benefited, however, and farmers and orchardists anticipate even better crops for next season than have been gathered this year. Citrus fruits are maturing rapidly, and lemon picking has commenced in some sections. Pasturage is becoming plentiful. Grain has started in some localities and looks bright. There will be a large acreage in the great valleys.

Sacramento Valley.

High winds on the 18th and 19th caused considerable damage to citrus fruits, but the rain immediately following has been of great benefit to all trees. There is still a good prospect for a large yield of oranges and lemons. The second crop of raisin grapes was injured by the rain, and many vineyardists will send their fruit to the wineries. In portions of Butte county the rainfall on the 20th and 21st amounted to more than five inches, causing rivers to reach the danger line. The soil is now in excellent condition for plowing, and farm work is progressing. Pasturage was greatly benefited. Hay and grain were somewhat damaged in portions of Yolo county.

Coast and Bay Sections.

The first crop of grapes was nearly all gathered and under shelter before the heavy rains; the second crop was slightly damaged in some sections, while others report no injury. All fruit trees have been benefited by the rain.

The rainfall for the week was unusually heavy, reaching over five inches in some sections. But very little damage was done to crops, although the harvest of sugar beets was delayed and other farm work retarded.

Potatoes are yielding a better crop than expected. In San Luis Obispo county there is considerable grain unthreshed, the work having been delayed by a scarcity of threshers and by the heavy rain. New grass has started and feed will be plentiful.

San Joaquin Valley.

The first part of the week was favorable for raisin curing, but cloudy and threatening weather, with rain at the close, retarded the second crop, and driers are now being used extensively. Vineyardists received warning of the rain, and most of the trays were stacked in time to prevent injury. Table grapes were damaged in some localities. Lemon picking has commenced at Porterville and oranges are rapidly maturing. The rainfall was quite general throughout the valley, though light in the southern portion. Some damage was done to exposed grain in sacks, and to beans, otherwise the rain was beneficial. Feed is growing rapidly and the soil is in excellent condition for plowing. Corn is maturing; a fair crop will be gathered. Grain has started in some sections and looks bright. There will be a large acreage of grain.

Southern California.

The weather was generally favorable for raisin making and most of the crop is now under shelter. Fruit canning is practically completed. Citrus fruits are looking well and ripening rapidly. The trees were benefited by recent rains. It is probable the yield of oranges will be larger than last season's. The rainfall for the week was comparatively light in the valleys, but heavy in the mountain regions, and was generally beneficial to alfalfa and pasturage. Plowing and seeding have commenced.

Los Angeles Summary.—Rain greatly improved oranges, which have increased in size, and in places show signs of coloring, but delayed grain. Bean threshing, plowing and threshing continue. Some early grain up.

Eureka Summary.—Copious rains during the week thoroughly soaked ground. Harvesting of late potatoes delayed. Pasturage in good condition. Apples are being picked.

The following data for the week ending 5 A. M. Wednesday, October 25, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.....	.....	3.55	3.16	38	65
Red Bluff	2.08	2.62	.89	1.72	44	68
Sacramento	2.30	3.08	.90	.93	42	70
San Francisco	2.07	3.60	1.87	1.32	50	62
Fresno	.62	1.83	1.15	.81	42	78
Independence	.00	.37	.31	.82	36	72
San Luis Obispo	1.82	3.44	.59	1.58	42	70
Los Angeles	.10	1.48	.18	.99	46	74
San Diego	.60	.42	.07	.42	54	76
Yuma	.00	.08	.18	.91	46	88

THE IRRIGATOR.

Notes From Merced County.

Written for the PACIFIC RURAL PRESS.

With advantages from irrigation so apparent, and with opportunities at hand to avail themselves of the use of water, it is strange that there are not more farmers in the vicinity of Merced who adopt this method of increasing the yield of their broad acres. The farmers who avail themselves of irrigation are the only ones who are permanently prosperous. They can resort to a varied agriculture, or they can follow a special line of culture more profitable than the continued raising of wheat, barley or rye. The grain grower has a hard struggle with the uncertain elements, upon a farm gradually impoverished by constant cropping to wheat. The irrigator secures profitable and unfailing returns. He advances as rapidly toward the attainment of a competence as his non-progressive neighbor travels in the direction of insolvency.

There are indications that the farmers around Merced are beginning to open their eyes to the possibilities of the situation. One of the most effective object lessons has been the operation of the creamery recently established there, and the consequent development of alfalfa culture. It has been shown that this is not only an excellent region in which to grow alfalfa, but is a fortunate location for the establishment of a creamery.

Fountain City Creamery.—The creamery has been in operation about two months. It is so excellently equipped, and has been under such intelligent management, that it has been a success from the start. In order to give impetus to the efforts, when the creamery company was organized, the Crocker estate, through J. D. Bradley, the public-spirited manager, subscribed for a majority of the stock. The enterprise was capitalized at $6000, but the enterprise has cost about $8000.

Description of the Creamery.—It is questionable if there is a more admirably constructed plant in the State than this Fountain City Creamery. The main building is of wood, but it has double walls, about 12 inches apart, the intervening space being filled with a non-conducting substance. The floors are all of cement, so graded that any surplus moisture is drained off into a specially constructed sewer. The boiler room is set off from the main structure about 2 feet, so that no effect of heat from this source is noticeable. Besides the boiler room, there are an engine room (containing engine, ice-making machine and pump), a butter-making room and a cold-storage room. The two latter compartments are surrounded with pipes connected with the ice-making machine and boilers, so that the temperature can at all times be regulated. The milk is elevated from the farmers' wagons to a second story, where is located the cream separator. From the receiving tank the milk flows by gravity through a heater, thence to the separator, and from there, as skimmed milk, into a tank below. From here it is siphoned to the outside of the building, where it is taken into the cans of the farmer from whom it was received.

The Product.—The creamery has a capacity for handling the milk from 1000 cows. At present there is hardly one-tenth of that number as contributors, and these are distributed among eighteen ranches, the Crocker estate, with about fifty cows, being the largest patron. Other farmers are preparing to patronize the creamery, and within a year it is likely 400 to 500 cows will be drawn upon. Some butter is made, with very complete appliances, but the product of the creamery finds its most profitable sale in the shape of cream, which is sent daily to San Francisco, where it commands a good price. So far the farmers have received returns amounting to $5 per month for each cow whose milk has been taken to the creamery. The institution now handles something over 2000 pounds of milk per day. C. H. Smith, an experienced creamery man, has charge of the work.

Alfalfa Growing.—In the districts surrounding Merced a large acreage may be sown to alfalfa, and as four or five crops of this rich feed can be grown every year, with irrigation, the locality is exceptionally suitable for dairy farming. Alfalfa is one of the richest and best feeds known for the production of butter. A settler on a twenty-acre tract can sow a few acres to alfalfa, buy half a dozen cows, and live comfortably on the income from the sale of milk while waiting for his trees or vines to come into bearing. Some phenomenal yields of alfalfa have been obtained here. By carefully preparing his land before seeding, and by judicious irrigation, E. W. Stoddard, the veteran dairyman, obtained this season a yield of eighty tons from fifteen acres of land. This cannot frequently be duplicated, but it illustrates the possibilities of intelligent culture. When it is token into account that there are large areas of land susceptible of irrigation and of alfalfa culture in Merced county—lands lying within easy distance of the Crocker-Huffman canal or its laterals—and when the people realize the advantages here offered, it will be difficult to estimate the future extent of the dairy business in this locality.

The Silo.—An important factor in the dairy or stock business of Merced county in the future will be the silo. Mr. Bradley, of the Crocker estate, is the pioneer in this line. The present season he erected a silo capable of holding 300 tons and filled it with alfalfa, mixed with sorghum and Indian corn. He will continue work on this line until he demonstrates that the silo can be as great a success in Merced county as it has proven in other localities of California, as well as in the Eastern States, where it is so largely resorted to by dairymen and stock raisers.



ALFALFA HAY GROWN WITH IRRIGATION IN MERCED COUNTY, CAL.

Fruits and Vegetables.—The great fertility of soil in Merced county, where irrigation is resorted to, has been amply demonstrated by the fruits raised here on the Bubach and other ranches. Few localities in the State yield peaches and pears of such excellent flavor and quality. Large stories are also being told of the yield of sweet potatoes in the Atwater district, where the growers are making more money upon twenty acres than wheat growers can make from 300 acres, even in moderately good years. With irrigation, the fruit grower and sweet potato culturist can rely upon a uniform, almost certain yield; the wheat grower is dependent entirely upon each season's timely rainfall.

Gradually it is being forced in upon the consciousness of the farmers of California that the old-time methods of doing things must change. Right here, in Merced county, the old and the new are side by side, and the new ways are proving the better. A few more dry seasons like the past three and we shall see an instance of the survival of the fittest. The culture of grain will have become a neglected industry, while the irrigator will continue to revel in prosperity.

H. G. P.

[Yes, and the beauty of it is that the irrigator can grow wheat profitably, and thus make it altogether unnecessary that wheat growing should be a neglected industry.—ED.]

ENTOMOLOGICAL.

What Mr. Swingle Says About the Fig Insect.

In last week's PACIFIC RURAL PRESS we alluded to the California visit of W. T. Swingle, who went to Europe last winter under direction of Secretary Wilson to collect material of value to our horticulture. In a report to the Secretary, of which we have just received an outline from Washington, there appears an allusion to the fig insect matter which is of interest to our readers.

Caprification of the Fig.—While pursuing his investigations, Mr. Swingle secured large numbers of the blastophaga insect for the caprification of the fig. Caprification is a process practiced in the countries about the Mediterranean from the earliest times, still considered essential by the growers of Smyrna figs. To insure caprification, the peasants suspend so-called Capri figs in the branches of the common fig tree, just as the young figs are forming. From two to six of the Capri figs, which look exactly like small, hard, green figs, are threaded on a rush and the chaplet is then thrown into the branches. From twenty to thirty Capri figs suffice for a large tree. These Capri figs are the fruit of the male form of the species of which the ordinary fig tree is the female. The Capri fig tree does not bear edible figs, but, instead, small, tough fruits filled with little galls, from which issue minute, black, wasp-like insects—the blastophagas. These fig insects, in forcing their way out of the Capri figs, become coated with pollen; then if they enter the ordinary, or female fig, just developing at this season (July), they rub off the pollen on the flowers inside the fig, which thus become fertilized and ripens good seeds—an action beneficial to the fig growers in two ways, first in preventing the figs from dropping off when half grown, and, second, from the rich nutty flavor which the seeds give to the fruit.

Not all varieties of figs require caprification, and, indeed, there are already many sorts which have for a century fruited abundantly in the South and Southwest. It is, however, absolutely necessary to caprify the best sorts of figs for drying. The only figs which are to be compared with the finer imported Smyrnas are a few pounds produced in California every year by the laborious process of hand pollination.

The Insect Secured.—Secretary Wilson in 1897 assured the California State Board of Horticulture that he would endeavor to introduce the insect during the fiscal year 1898-1899. Partly with this end in view, Dr. Howard, entomologist of the Department, visited California in the spring of 1898. Mr. Swingle, then studying in Naples, Italy, fortunately hit upon a new method of shipment which rendered it easy to send the insects to California in good condition. This was by wrapping the winter form of Capri fig in tinfoil and sending by mail. This simple expedient rendered it possible to secure as many blastophagas as were wanted. In the spring of 1899 Mr. Swingle, under instructions from the Department, again sent numbers of the insects from Naples, and also from the fig regions in the mountains of Algeria. He also visited the fig-growing regions of Algeria, Italy, Greece and Asia Minor, and learned the methods of culture pursued and also the conditions necessary to the life of the insect. The insect has begun to breed in California and it is hoped that it will succeed in passing the winter and becoming permanently established. It will, however, be necessary to plant small orchards of Capri figs in various regions, so that in case the insects should be killed out in one locality by a freeze or other causes, they could be replaced without the expense and delay of importing them from abroad. We may now confidently expect to see the dried-fruit industry established shortly, not only in California, but also in Arizona and in all regions in the South and Southwest where there are no frosts severe enough to kill the orange tree, and where the weather is dry during August and September.

The San Jose Scale in Canada.

U. S. Commercial Agent G. Bentelpacher at Moncton, Canada, gives an interesting account of the time they are having with the San Jose scale in Canada. After prohibiting the importation of "nursery stock" into Canada, the Government of Ontario appointed a commission of three professors to investigate the ravages of the San Jose scale and the efficacy of the means adopted for stamping it out. The commission has made a final report. The greatest infestation, they say, is in one corner of Niagara township, near Niagara-on-the-Lake, and the township of Harwick, Kent county, in the neighborhood of the postoffice of Gould. There is limited infestation at Kingsville, and smaller ones at St. Catherines, Winona, Burlington, and near Chatham. In ninety-one other cases, trees planted within the last two years were found infested. These were all destroyed, and this year's inspection failed to discover scale in any but thirteen out of the ninety-one

places. The scale was found in five nurseries, but the infested stock was destroyed. The inspector estimated it would be necessary to destroy 136,200 trees, to be reasonably sure of exterminating the scale.

The commissioners are in doubt as to the possibility of checking the further spread of the scale and eventually exterminating it by the destruction of the trees, as provided by the San Jose Scale Act. They advise the immediate destruction of all badly infested trees, showing incrustated trunks; the careful treatment of all others; and the granting of large discretionary powers to the inspectors in dealing with isolated cases of infestation. The work of treating them should be done by the Government, and the owner of the trees should pay for the material and board the men and horses during the time of treatment. Owners of trees not so badly infested should be required to treat them by a prescribed method once a week.

Owners of trees should be paid one-fourth of their value without discount, the fruit on the tree to be regarded as part of its value. The fumigation of nursery stock should be done under official supervision, and nurserymen should be required to attach a certificate of fumigation to every parcel of stock sold.

FLORIST AND GARDENER.

Vegetable Growing.

By S. J. MURDOCK, at the Westminster Farmers' Institute.

The growing of vegetables here and elsewhere we will speak of under three heads, viz: home use, local demand and for shipment to a distant market.

To supply the home with plenty of fresh vegetables is very important for more than one reason—health, economy, variety, etc. It is a well known fact that fresh vegetables are superior to stale; yet we will admit that it is a big task to endeavor to change a universal custom, one which in the beginning was a necessity, and has continued from time to time, until at present it has become a business, the importance of which but few fully realize. A great many families could raise most of the vegetables they use, and it is quite sure that a very large number of them would use more than they do at present if they had the product fresh from the garden.

A Succession.—It does not require a very large space to supply a family, and where water is handy two, three and even four crops per year could be grown on the same plot. To some this may seem overdrawn; but let us demonstrate that it is not an impossibility: Beginning with April 1st, sow with lettuce, and, with attention and proper cultivation, it should mature in two months. Resow with turnip and raddish, which is a good summer variety; they will do to begin to use in three weeks, and by the first week in July the ground will be ready for late cucumbers, which will occupy the space until late frost or the nights get too cold for them to produce. Now plant the plot to carrot or beet seed, onion sets or Winnigstadt cabbage plants; any of them will be ready for use in February or March, as the season may return or hurry to maturity. Here we have four crops within the year, and no two of them on the ground at the same time. There are other combinations that will do as well by having two crops growing at the same time.

There are two important items in favor of home-grown vegetables: It saves many nickels and dimes and at the same time gives a better and more healthy article.

We know it is very handy to have your vegetables brought to your door, but very often what do you get? Yesterday's, the day's before or perhaps last week's culled-over truck, for the vendor is out for the money he can get out of his business, and he is not going to throw any away as long as there is a chance to sell.

The Local Markets.—Under the second head is the growing of vegetables for the local market. The supplying of a demand that originated in the early days of mining, large stock ranges or big grain ranches were a necessity; the miners' camps were in the gulches or mountains, the cattle ranges and grain ranches on the dry plains, and very few had the facilities for raising, but were willing to pay big prices for most anything in the shape of green stuff. This business has grown day by day and year by year, until at present it is a big industry, mostly in the hands of Chinese; yet in some localities white men are succeeding in the business, and, if they would combine and exchange as the Chinese do, they could soon have a large share of the trade. It requires a variety to supply the demands of the consumers of vegetables in California; they know no seasons here, as in the East. They want carrots, cabbage, beets, onions, radishes, lettuce and turnips the year round, and expect asparagus, peas, parsnips, salsify and cauliflower most of the time; so the white men should combine and exchange so as to supply the demand, for one man will not often succeed in having all the varieties in proper quantities, as different soils and different locations produce different results.

While the average Californian does not take much interest in the business, considering it "puttering" work, yet it is far more remunerative than many of the farm crops now produced, and there is an ever-increasing demand in the near-by towns or city.

It requires study so as to keep abreast of the times. We cannot raise the vegetables of ten and twenty years ago and make a success of the business, for there is as great improvement in vegetables as in many other products of the soil; and there is scarcely a locality in this part of the State but an industrious, energetic man could work up a good trade.

He should not expect to make a fortune in a short time; yet, after the first few months, should have a steady income, which should increase from time to time, as his experience in filling the demands of his customers would develop.

For Canneries.—There is another feature which is fast increasing and comes under the head of local demand: that of raising crops for the near-by canneries.

The third and last head of our subject is raising vegetables for shipment. This is a business that has assumed vast proportions and is increasing from year to year, and, in some lines, with rapid strides. For instance, the raising of celery in this vicinity. Five years ago there were but a few acres grown; while at present there are hundreds of acres growing, some ready for the harvest; in fact, there is a little extra early that has already been in the market, and there will not a week pass till next April but that it will move.

We consider the grower who raises vegetables for shipment a specialist in his line; that is, he grows but few varieties, often but one, and he should study the requirements of that variety in all its forms; not only the best variety, but the best strains of that variety, as well as the most economical way of planting, cultivating, harvesting and marketing.

Local Adaptations.—Location, in many instances, will determine what crop or crops he should raise. On land of warm, dry, sheltered spots he may raise string beans, peppers, summer squash or early tomatoes, while on more heavy land he would plant celery, cabbage or onions. Another locality may be better adapted for peas or asparagus, but you will not find any one spot best for all. Yet we can raise all of the above named at some time of the year in the same locality, but the point to arrive at is to raise that crop which succeeds best at the right time of the year for shipment, so as to realize the high prices expected for such special crop. We can raise tomatoes to perfection and in large quantities on our moist, heavy corn lands in this immediate vicinity, but we cannot mature them early enough to bring the top-notch prices, and it is that which counts on the right side of the ledger.

There is much land adapted to raising vegetables that is either idle or farmed to ordinary crops which might be utilized for more paying crops, and yet there is some land planted to vegetables which had better be left idle. But the right seed in the right place has helped many out of a tight place, and will do so again if the right man will do his part.

All Cannot Succeed.—But I cannot close this article without a note of warning to the new beginner. I have often had both verbal and written solicitations for advice on growing vegetables, often from persons entirely unfit for the business. Let no man who has followed some other vocation than soil tilling till past middle life think he can change with much hope of success. One great mistake of the beginner, whether old or young, is to attempt too much at first; be content to go slow and learn as you go.

There is a great lack of knowledge as to the time to sow the different varieties of vegetables; take, for instance, the onion, of which we have sown the seed every month of the year of some variety or other for different purposes; but let no one think he can mature the crop at all seasons of the year. As it requires a warm, dry soil to mature an onion, there have been more mistakes made by sowing late varieties for early crops or early varieties for late crops than many are aware of.

I have often been asked by others why they could not raise such a crop as they had seen me grow. I will say they have not given it the study nor have they had the experience, both necessary factors in producing a No. 1 crop at the right time.

THE DAIRY.

Dairying in California.

By GEO. H. PECK of Pasadena at the Dairymen's Association of Norwalk.

Over thirty years ago, when I came to Los Angeles county, only Solomon Richardson of San Gabriel made butter. He sold it for $1 a roll, and when in three or four years it went below that figure he went out of business—it did not pay! In those days everything was awkward and nothing handy. American cows were scarce and expensive, costing, with the calf, about $100. Then the calf had to be used to inspire the cow to give down her milk. It took two men (a milker and one to mind the calf), three inspirations and about half an hour to milk a cow. In 1873 in the (Pioneer) Farmers' Club at El Monte I surprised the audience by stating that the calf could be dispensed with in milking, and that by so doing the cow would give more milk, and that the milking could be done in half the time.

Making butter then in Los Angeles was generally considered to be impossible, and when I suggested, in the club, cheese making, the ridicule was unmerciful. El Monte now has three creameries, and one of its merchants recently remarked: "What could we do for current cash payments were it not for the creameries?"

Dairy Conditions.—Three conditions are indispensable to profitable dairying: First, good cows and gentle treatment; second, plenty of green and rich feed; and third, plenty of water for irrigation to keep the feed green and growing. The first conditions are with us, and the second, alfalfa, has been successfully established, and alfalfa growing is entering the speculative stage, *i. e.*, everybody seems just now to be rushing into alfalfa as a best investment. It is useless to say that alfalfa raised just to sell off the farm continuously does not exhaust but improves the farm. It would be just as sensible to say that if a man spent $50 out of $100 he would still have $100 left, when we know he has only $50 left. There is the highest authority for saying that if alfalfa is sold off the land and its fertility is not renewed it is exhaustive to the land. A farmer, if possible, should be the consumer of his own crop, *i. e.*, his own customer. This is the easiest and most profitable. Alfalfa is said to have the largest butter-producing qualities of any crop, and that one and one-half acres (this includes the coarse feed to use with it) should profitably carry a dairy cow.

Dairy Reckoning.—In my experience the gross earnings of a cow is about $50 a year. Take out one-half for the expense of handling and feeding would leave an annual net of $25.

It is estimated that the arable land of California is 40,000,000 acres; that of this about 10,000,000 are covered by irrigation privileges, and that 30,000,000 are not now but may be brought under irrigation. Now, how much of these 40,000,000 of acres would be suitable for dairying? Certainly not less than one-fourth. This would imply pasturage for 6,600,000 cows and a gross profit so high up in the millions that a conservative man would hardly risk his reputation in estimating it. But if the farmers of the State of Vermont (which is a little less than half as large again as Los Angeles county) can carry about a million cows and deposit over $4,000,000 annually in the savings banks, or an average of over $35 for every man, woman and child in its farming population, can we not do the same? Yes, but not until the water question is satisfactorily adjusted, *i. e.*, so arranged that each can have his share peaceably, and the interminable stream of lawsuits which glut our courts, and for which the unfortunate farmer has treble to pay in interruptions of his business, comfort, happiness and the swiping of his money, are banished.

The Irrigation Question.—Were this irrigation question made a special department—like the schools, for example—having a hydrographic engineer for a superintendent, with similar assistant engineers presiding over districts, it is believed that the evils which beset our irrigation problem would disappear.

Other States, notably Wyoming, have adopted this system, with very satisfactory results. Are we not capable of doing for ourselves what the agriculturists have done in Wyoming? As is done elsewhere, we must seek relief through the Legislature.

Now, unless suitable men are sent there, our delegates will do about as much harm as good. The $1750, the average expense of a legislator, is wasted and comes out of the honorable gentleman's immediate constituents.

But who will make suitable legislators? Certainly not any man who solicits your vote. Generally he is working for his own ends, and is anything but capable of doing for the interests of his district. We want in our emergency educated and intelligent farmers, of such age and experience as to qualify them to form sound judgments; men who know the wants of the public and how to remedy those wants. Such men are to be found in most any community, and the cost of sending them to Sacramento would not be thrown away.

The favorable results of the present war will bring an immense enlargement of the dairy market and business. It is enough to say that with our growing facilities for scientific dairy education, factories, and the promise of almost unlimited markets, the future of the dairy interests on the Pacific coast is most flattering. But there can be only a partial realization of our possibilities until the irrigation problem is properly adjusted. Farmers have the power, but can accomplish valuable results only by uniting.

Census of Dairy Products.

The law requires the statistics for the 12th Census of dairy products (farm and factory) to be taken on separate schedules. The Division of Agriculture will take the amounts of milk and cream produced

and sold, and the amount of money received from their sales; also the quantity and value of all the butter and cheese made on the farm.

On the manufactures schedule will be taken the quantity of butter and cheese made in factories, co-operative and otherwise, together with the quantity and cost of raw materials (milk and cream), cost of labor, capital invested, character and value of plant and machinery, etc., etc.

After the two forms of scheduces shall have been returned to the Census Office in Washington, the like statistics of dairy products on each will be consolidated, and thus show, what never heretofore has been shown, the total yield of milk in the United States and the amounts and values of its several products. This assertion is based on the assumption that the farmers shall furnish the enumerators, fully and accurately, the information which the schedules may call for.

In some sections the records of cheese factory and creamery operations for the current year are destroyed, agreeably to previous vote of directors or patrons. For 1899 they should vote, instead, to have prepared and preserved for the use of the Census enumerators, who will appear on June 1, 1900, the statistics which the law says shall be gathered.

In many cases a failure to do this will prevent the enumerators from securing any returns, because new managers, or new secretaries, or new boards of control may be in charge on June 1, 1900, who will know nothing of the factory statistics of 1899—and the figures for 1899 are the ones which the law says shall be taken.

Farmers who keep no records of their transactions will find themselves in the same dilemma, on the arrival of the Census enumerator, as a factory which destroys its records. Therefore, Chief Statistician Powers is appealing to all of them to prepare in writing, while the necessary facts are fresh is mind, such a statement of milk, cream, butter and cheese products as will enable them to reply promptly and accurately to the inquiries which the law says the enumerators must make.

If they shall fail to do this, the statistics of dairy products in their county will be incomplete, and will compare unfavorably with those of counties wherein the returns are more accurate.

THE FIELD.

Agricultural Possibilities in the Yukon Territory.

Under date of Sept. 6, 1899, Consul McCook of Dawson City transmits to the State Department at Washington the following statement, prepared by Messrs. Acklin & Morley, of that place, on the agricultural possibilities in the Yukon territory.

Artic Gardens, Dawson.—Experiments were commenced in 1898 by Mr. Acklin and proved successful with the following vegetables, viz: Radishes, lettuce, carrots, turnips, peas, rutabagas, and Siberian kale. For the season of 1899 we have tried both flowers and vegetables, and also some wheat, barley and oats, which have, taken as a whole, proved very successful. We give you a list of the varieties of flowers, vegetables and grain grown, the dates of sowing, planting and maturing of crop, as near as possible.

Sown in Cabin in Boxes, April 5.—Flowers:—Pansies, China pinks, asters, cornflower, centaureas in three varieties, Stock's giant perfection, annual chrysanthemums, dahlias, nasturtiums, sweet peas, mignonette, Gabrielle calendulas, æroclimums, and helichrysums, Shirley poppies.

Vegetables.—Leeks, lettuce, parsely and celery, cauliflower cabbage.

The foregoing plants were transplanted to the open ground from May 10th to June 1st, inclusive. The flowers commenced blooming very quickly; the first pansies were picked July 4th; Shirley poppies, June 27th; the remaining flowers bloomed in profusion by the second week of July, excepting the dahlias which from all appearances will only make tubers this year and be in good shape for the season of 1900.

Planted in the Open.—On May 3rd, we sowed fifteen varieties of sweet peas in the open ground; they were in bloom seven weeks from time of sowing.

Vegetables were sown outside on the following dates. We have not kept the exact date when we commenced marketing tne different varieties, but it is sufficient to say that they grow as well and mature as quickly as in Vermont, Minnesota, and other Northern States:

April 24: Radishes.

April 26: Peas (American Wonder), prickly spinach, English mustard, Scotch kale, lettuce of all varieties.

May 10: Carrots (Danvers half long, and Oxheart), turnips (Flat Dutch).

May 24: Beans (Broad Windsor, Golden wax, Wardwell's Kidney wax, etc.); peas (Little Gem, American Wonder, etc.); parsnips, rhubarb (Victoria and Stott's Mammoth), cucumber (Boston Market White Spine); onions (Danvers, Yellow, Queen, etc).

May 27: Transplanted cabbage, leeks, cauliflower and parsley.

We make frequent sowings of radishes and lettuce, as they mature more quickly than any other vegetables.

The following varieties of cereals have been experimented with from samples from the Dominion experimental station at Ottawa, and the results go to prove that all the cereal grains, such as wheat, rye, oats and barley can be grown here and the country made self-supporting:

April 26: Oats, three kinds; harvested August 17 and 28.

May 22: Barley, six kinds; harvested August 17 and 28.

May 22: Wheat, five varieties; harvested August 28.

Summary.—From our observations of the climate here we see no reason why the small fruits, as strawberries, raspberries, blackberries, currants and gooseberries, could not be cultivated profitably, as they are growing wild in the surrounding country.

The duration of the season suited to vegetation is approximately five months in the lowland and islands along the rivers, and two to four weeks longer on the hillsides with southern exposure.

THE VETERINARIAN.

Successful Treatment of Cattle Disease.

By Fred H. Bixby at the Westminster Farmers' Institute.

I have been asked to write a paper on the "Successful Treatment of Cattle Diseases;" but before I enter upon my subject I would like to mention that I have departed from it in that I can only write of the partially successful treatment of some of the more common diseases of cattle.

Anthrax.—Under this head I put dry murrain, bloody murrain, splenic fever, Texas fever, tick fever and black leg. This classification may call forth some adverse criticism, in that I found one writer who maintained that Texas fever was not a form of anthrax, although the symptoms set forth by this same man were the same as were stated several times in other articles as those always seen in the murrain.

In regard to black leg, it would be well to state that, although it comes under this head, it is a very different form, many of the symptoms, however, being identical with those of the other forms of anthrax. The treatment of black leg is also very materially different.

The symptoms of anthrax in general are as follows: 1st, hanging down of head; 2nd, lopping of ears; 3rd, isolation from the herd; 4th, loss of appetite; 5th, staring look of eyes; 6th, constipation; 7th, fever; 8th, drawn wizened appearance; 9th, unsteadiness of hind legs; 10th, slight shaking of head; 11th, dryness of nose.

These are the most important; and as the disease becomes more advanced, the fever increases, the animal becomes more and more emaciated, the manure harder and coated with a brownish slime, finally ceasing entirely, the animal nearly falling at every step. When an animal has the bloody murrain the water is of a reddish, bloody color and has a very offensive odor. In the black leg there is generally noticed, in addition, a swelling in the region of the kidneys or shoulders; and if, upon examination, this sounds when pressed as if it were filled with wind or gas, it is pretty certainly a case. This swelling generally follows down the leg and the animal becomes lame.

Causes of Anthrax.—Almost every writer and every person I have consulted have given me different reasons. The most common and most probable I think are: 1st, dry feed; 2nd, bad or alkali water; 3rd, ticks; 4th, contact with an animal having the germs in its system; 5th, contact with grass over which diseased animals have been; 6th, contact with carcass of an animal that died of the disease. Before speaking of treating the disease, let me mention a preventive measure. Prevention is better than a cure, and is much cheaper in the long run.

Vaccination Commended.—I should advise every one in an infected district to vaccinate his cattle. It will cost between $2 and $3 for a hypodermic syringe and 25 cents a head for the vaccine. If you have a cow worth $75 it will pay to spend 25 cents on her every two or three years if it is going to keep her alive. The process of vaccination is simple and can be done by any one if they have the necessary article. The virus comes in a small vial containing ten doses. The cattle have to have two lymphs injected twelve days apart. The needle of the syringe should not be put in too far, in that the whole point of vaccinating is to get this anthrax germ into the circulation in order to render the animal immune to the disease, and, if put in too far, it does not enter into the blood readily. I think the proper place to insert the needle is in the lower side of the neck, although some prefer to insert it immediately behind the fore leg. Since vaccinating my cattle, I have not lost one and they have been in a field that is alive with the anthrax germ. One gentleman, to my knowledge, vaccinated over 500 head of his cattle, thus showing that he believes there is something in it.

Treatment of Anthrax.—I find that if an animal is treated before the disease has a firm hold it can be pulled through. As soon as the first symptoms are noticed, give one-half ounce (which is equivalent to a teaspoonful) of stock calomel. This acts upon the liver and seems to allay the fever a little. After from six to twelve hours give her a good dose of spirits of niter, following this up a few hours later with a quart of raw linseed oil.

As soon as the patient has swallowed these things move her around—the faster the better—as this seems to set the blood in circulation and helps to loosen the bowels. Unless the bowels move, the animal will die in short order. The cost of this treatment is as follows: Calomel, 5 cents; spirits of niter, 20 cents; raw oil, 20 cents; total, 45 cents.

In regard to black leg, the only remedy I can find is to lance the swelling and inject a strong solution of carbolic acid and water. The remedy for this should be prevention as in other forms of anthrax. A different vaccine is used for this form and the syringe is larger and more expensive.

Lumpy Jaw.—This is a disease more common in the middle West than on the Pacific coast, and is generally found in stock cattle and not in dairy cattle. It consists generally of a swelling under the lower jaw, but sometimes under the eye or under the horn and even well down on the throat. It is of two kinds—one where bone is affected and the other where only the soft tissue is affected. Sometimes the largest, fattest and thriftiest steers in a herd will have this disease, and consequently will be unsalable, thus being a loss to the owner of from $30 to $50 per head. It is caused quite often from a bruise, and more often the cause is unknown. It was proven in Illinois that most of the more advanced cases could be cured by the internal administrations of iodide of potassium, which costs 30 cents an ounce, and one ounce will cure any ordinary case, the dose being one dram to one pint of water (there being eight drams in an ounce). Hence the cost of curing an animal is approximately 30 cents. The animal should be given the dose each morning. If the animal runs at the nose, so that its breathing is impaired, discontinue the medicine for a day or two. If its manure becomes dry and hard, give the animal a little bran mush or a dose of salts. Do not begin treatment of a dairy cow until she has been turned dry, as this iodide will reduce her milk very materially.

Garget or Caked Bag.—This is a very common ailment in the dairy where cows are well bred and deep milkers. Garget in itself is not of so great importance, but it is liable to turn into milk fever. To be sure, garget may result, if not attended to properly, in spoiling one or more of your cow's teats, but it is rarely that the cow dies from it. In most cases the udder can be softened by milking out as much of the contents as possible and bathing it thoroughly with warm water. After this is done, rub the udder thoroughly with oil and knead it in. In very stubborn cases it may be necessary to apply cloths wet with hot vinegar and whisky or apply hot flannels, the object of this being to take out the soreness. In connection with this, as stated before, is the disease known as milk fever. The symptoms of this are: 1st, holding down of head and ears; 2nd, restlessness; 3rd, changing position on hind legs continually; 4th, constant look of being frightened by something in the rear; 5th, loss of appetite; 6th, high fever. If nothing is done, she will lie down flat on her side, stiffen her legs and neck and become absolutely comatose. In this latter stage it is very seldom that one can pull her through; but if taken in the earlier stages it is not so difficult. The old remedy was to stimulate the cow and then give her physic and spirits of niter to empty the bladder. Later experiments have changed this somewhat in that, after giving her a stimulant of whisky or spirits of ammonia, it is thought better to milk out every drop from her udder and inject into each teat one-half pint of solution of iodide of potassium in the proportion of two drams of iodide to one quart of water. After this is done do not fail to draw her water, as this is most important, owing to the fact that she is practically paralyzed and has no control over her organs. This may be necessary for three or four times before she becomes able to empty her bladder herself. It is a good idea, if it is expected that a cow will have any inclination to this complaint, to begin milking her a day or two before she comes in fresh.

Flies.—In regard to flies, although not a disease in the true sense of the word, it is a plague that not only keeps your cows poor, but diminishes the amount of milk. I have heard of several dairymen who were using a patent application known as "shoo-fly" with great success. Another remedy is a solution of carbolic sheep dip and water in the ratio of 1 to 20. This costs $5.60 for a five-gallon can, and it is something that no farmer, dairyman or horseman should be without.

Worms in Calves.—The treatment for this is so simple that it hardly needs mentioning—one tablespoonful of turpentine for two days, and your cure is effected.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

PIGEON CLUB ORGANIZED.—Irvington *Press*, Oct. 19: The pigeon fanciers of this place have organized the Rural Pigeon Club. The following officers have been elected: H. Overacker, president; B. Emerson, secretary and treasurer; H. Lernbart, racing secretary.

FIRST SILO.—Haywards *Journal*, Oct. 21: The first silo to be erected in this valley has just been completed on the Meek ranch, and has attracted much attention from neighboring farmers, particularly dairymen. It is 20 feet in diameter and 30 feet high, with a capacity of from 180 to 200 tons.

GRAPE CROP.—*Press*, Oct. 19: While the grape crop this year is about equal to that of last year, yet the grapes are far superior for wine purposes. They carry a much larger percentage of sugar and are turning out much better than expected. The late rain injured the crop in a measure, but to no great extent, as the grapes can lose several degrees of sugar yet and still be above the average. The wine men are now bending every energy in getting their crops harvested. The outlook is good for a large tankage.

HEAVY FREIGHT SHIPMENTS.—Niles *Herald*: The movement of freight to and from Washington township during September was limited only by the ability of the railroad company to furnish cars. Probably never in the history of the county have there been such crops, and as prices have been fairly good every one has been benefited. The good times have resulted in increased travel and the passenger receipts are keeping pace with that for freights.

Butte.

PICKLING OLIVES.—Oroville *Register*, Oct. 19: The output of pickled olives in this section during the present season ought to be very large. Fogg & McLaughlin will pickle their crop. Hon. John C. Gray will pickle a large quantity at Mt. Ida. Kusel Bros. will pickle as much as they usually do. S. B. Onyett pickled several thousand gallons last year at Palermo, and probably will do the same this year. The Palermo Citrus Association has erected a large plant for pickling olives. Porter Bros. will have a plant ready for operation ere the olives are ready for pickling, and here at Oroville the Ehmann Olive Co. have very large works and have contracted for many thousand gallons of olives.

SORGHUM INDUSTRY.—Chico *Enterprise*, Oct. 20: O. G. Cox and S. Shaw rented the orchard of L. H. McIntosh for the purpose of experimenting with sorghum. A four-horse mill is used to crush the cane, the sap running into a large storage tank. From this tank the sap is turned into a large boiling vat, and after being boiled is carried to the cooling vat, and when thoroughly cooled is placed in barrels. Already several hundred barrels have been prepared, and it will yet require several weeks to harvest the crop. The sorghum being manufactured here is light in color and has a superior flavor.

ORANGE CROP.—Marysville *Democrat*, Oct. 17: The picking of the crop of oranges at the Hearst grove near Palermo will begin about November 1st. From R. W. Skinner, who, with Mr. Schnaebel of Newcastle, has purchased the crop of this and adjoining groves, it is learned that the fruit this season will be of better quality than ever before, being larger, smoother and of good color. The crop on the Hearst place, which last year required over fifty cars for shipment, will fill sixty-five or seventy cars this season, and with the fruit from the other groves in the vicinity will fill 100 cars. Last year eighty-two carloads of oranges were shipped East from these groves. The Hearst grove consists of 278 acres. The first shipment this year will be about November 7th.

Fresno.

ABUNDANT YIELD OF SULTANAS.—Reedley *Exponent*, Oct. 19: From twelve acres of Sultanas, W. B. Nichols has delivered 158 tons to the dipping plant for which he received $15 per ton, making a gross total of $2370.

Glenn.

LONG THRESHING SEASON.—Orland *News*: We believe that Mr. Wheeler of Newville, who has been running a threshing outfit in the southern portion of the county, can say that he ran his outfit and did threshing later in the season than has ever been done in this county. He started early in June and quit on S. S. Oshorn's place on October 4th. He worked on wheat during the entire season, and did not stop an hour for repairs.

Humboldt.

GOOD CROPS.—Arcata *Union*, Oct. 14: The storm that broke on us Tuesday evening was right in line with what every farmer wished for, and follows directly in the prosperity wake of full bins and a prosperous year. All crops have been way above the average, with the possible exception of potatoes. The cereals have been freer from foul seed than is generally the case, and the absence of the worm which plays havoc with the pea crop has been clearly noticeable.

Kings.

WINERY INCORPORATED.—Hanford *Journal*, Oct. 20: Articles of incorporation of the Alma Winery & Distillery Co. have been filed. The principal place of business is San Francisco, the capital stock is $200,000, and the number of shares into which it is divided is 2000, of the par value of $100 each. The amount actually subscribed is $500, and the names of the shareholders are: Moses Samuel, Paul Samuel, Mark D. Levy, S. Simon and Herman S. Goldberg, all of San Francisco.

Los Angeles.

IRRIGATION COMPANY ORGANIZED. — Pomona *Progress*, Oct. 19: The La Verne Land & Water Co. has been organized with a capital stock of $25,000, divided into 500 shares of $50 each. Of these 256 shares have already been subscribed on the basis of one share of stock to each acre of land to be irrigated. The property of the new company consists of fifteen acres of land purchased from R. A. Wallace for $1500 and five acres purchased from R. H. Douglas for $1500. On this property are two wells, one 300 feet deep and the other 200 feet deep, in which the water stands 78 feet from the surface. Two more wells are to be put down, and it is expected that over 100 inches of water will be obtained. The shareholders elected the following officers: R. A. Wallace, president; C. E. Stralght, vice-president; J. F. Cumberland, secretary. The board of directors consists of the foregoing officers and B. B. Brown, J. J. Baynham, W. S. Marshall and Frank Wheeler.

Mendocino.

WOOL SALE.—*Dispatch and Democrat*, Oct. 20: This has been wool sale week in Ukiah. So far there has been stored at Crane's warehouse 800 bales of wool, which averages 250 pounds per bale, making a total of 200,000 pounds. In Anderson valley over 16,000 sheep were sheared, from which the output was fully 50,000 pounds. All of this goes out by way of Cloverdale. The Hopland output is fully 40,000 pounds. From Blue Rock and Cahto some was taken out by way of Westport. The output from Little Lake, Scott's valley, Sherwood and Walker valleys amounts to about 60,000 pounds. Some 20,000 sheep were sheared and about 7000 lambs were marked in the spring in this section. Some growers have sold for 13 and 13½ cents, but the majority are holding for better prices. The price will probably average 14 cents. Nearly all the Little Lake growers sold yesterday afternoon for 14¾ cents and the warehouse charges. Last March, according to the assessment roll, there were 122,124 sheep in the county. A great many mutton sheep were sold, but the increase in lambs would counterbalance this. A conservative wool man has estimated the number of sheep sheared at 125,000 at an average of three pounds per fleece, making the total fall output 375,000 pounds. At 14 cents per pound the income would amount to $52,500 for the fall clip. The spring clip amounted to about 425,000 pounds. The average price was 17 cents per pound, or an income of about $72,250, making a grand total of 800,000 pounds of wool worth $125,000.

HOP CROP.—Ukiah *Dispatch and Democrat*, Oct. 20: The hop output from three yards, Cunningham Bros. of 137 acres, Horst Bros. of 130 acres and the Sanford Bros. of 38 acres amounts to nearly 500,000 pounds.

Monterey.

BIG RUSH OF SUGAR BEETS.—Dispatch from Salinas, Oct. 17: Some idea of the rush at the Spreckels sugar factory may be gained from the knowledge that several extra freight trains have been coming and going daily for several weeks. Yesterday an extra with twelve gondola cars loaded with beets arrived in the forenoon. The cars carried 360 tons of beets, and this was only a small portion of the daily receipts. Then the northbound extra freight takes away daily from six to seven carloads of sugar. The output will average about 150 tons daily.

Napa.

GRAPES CONTAIN TOO MUCH SUGAR.—St. Helena *Star*: Some of the wine makers are experiencing difficulty with fermentation this season, there being so much sugar in the grapes. The wine is coming through all right, but much more work is required and great care needs to be exercised.

Orange.

WALNUT CROP.—Anaheim *Gazette*, Oct. 19: Walnuts are coming in at the association warehouse. The nuts are being treated by the new process, being dipped for ten seconds in a solution made of twelve pounds of bleaching soda, twelve pounds of sal soda and fifty gallons of water. The nuts are bleached perfectly and the process costs about a third of the old sulphuring method. The new method is likewise much more expeditious. The first carload will be sent out to-morrow. The association will ship out about twelve cars. The members are highly elated over the success of the bleaching process, which was recommended by the Agricultural Experiment Station at Berkeley. It is almost instantaneous in its work, bleaches the nuts perfectly, and results in a large saving to the grower as compared with the sulphuring process. Chester Holcomb, manager of the Fullerton Walnut Growers' Association, has issued the following letter of instruction to members of that association: "The packing house is now open for receiving walnuts. We have sold the season's entire output of this association for spot cash f. o. b. cars Fullerton. The product of our association has obtained a first-class reputation on the market, and it is our desire, as well as it is to our best interests, to maintain the high grade and standard of our walnuts. In order to do this the directors advise: 1. That all black or dirty walnuts be washed (no sulphuric acid to be used in washing), and that all walnuts be thoroughly dried before delivery to the packing house. 2. That soft shell and hard shell walnuts be kept separate, and that all damaged and imperfect nuts be picked out. 3. That it is advisable that the nuts should be gathered as often as possible, not leaving them on the ground for any length of time. Extra care should be taken in order that the goods placed on the market by this association shall be first-class and up to grade in every particular. 4. Any walnuts delivered not up to grade will be rejected by the manager."

San Bernardino.

BEETS AND SUGAR.—Chino *Champion*, Oct. 20: The production of sugar goes on unabated at the big factory here, an average of about 765 tons being sliced per day. The record of the past week's work is as follows:

	Tons Sliced.	Per Cent Sugar.	Bags Sugar.
Thursday	620	16.5	2,162
Friday	731	16.5	2,105
Saturday	816	14.9	1,725
Sunday	709	14.9	2,225
Monday	895	15.0	2,010
Tuesday	791	14.0	2,035
Wednesday	793	14.5	2,360

The sugar percentage has gone considerably lower since the close of the Chino harvest.

San Diego.

POULTRY EXHIBITION.—*Union*, Oct. 19: The San Diego County Poultry & Pet Stock Association will hold their annual show in San Diego on Dec. 19th to 22nd inclusive. The business men of this city have generously donated $300 worth of fine special prizes. These are in addition to the association's regular prizes.

San Joaquin.

STOCK CAUGHT BY EARLY SNOW.—Stockton, Oct. 19: Stock raisers who pasture cattle and sheep in the mountains during the summer and fall are hustling to get their animals out of the deep snow that fell so suddenly last week. All were taken by surprise and none of the big bands of cattle have yet been driven to the lower hills, though many herders have been working night and day to work the stock down the mountain streams to places of safety. Most of the sheep men got their flocks well down the hills, but several large flocks of sheep that were being driven west over the Sierras from Mono county were caught near Baker's station, fifty miles above Sonora, where the snow is 8 feet deep, but the herders hope to save the stock if another big storm does not come very soon to pile snow on top of the first fall. The McCormick Bros. of Stockton have a thousand head of cattle on the ranges south of the Calaveras Big Trees, where the snow fell to a depth of 5 and 6 feet during the recent storm. They have no fear of losing their stock, because the snow is light and the temperature cold. Cattle can travel through such light snow.

GRAIN DAMAGED. — Stockton *Mail*, Oct. 21: Throughout the county there is more or less grain remaining unthreshed, which has already received enough moisture to damage it. That there is so much grain unthreshed at this late day is on account of a scarcity of threshers to handle the crop. On the islands there is still two weeks' threshing to be done. Ordinarily there would have been no grain remaining unthreshed at this time, even with the present force of threshing machines, but this year there has been a great increase in the acreage. That there still remains a great quantity of grain sacked and piled on the levees on the islands awaiting transportation is due to the scarcity of steamers to handle the more than ordinary yield.

San Luis Obispo.

UNTHRESHED GRAIN DAMAGED BY RAIN.—San Luis Obispo, Oct. 21: Up to 7 o'clock tonight over an inch of rain has fallen, which, following the storm of last week, has caused heavy damage to unthreshed grain. It is predicted that threshing is over for the season, with over 150,000 sacks left as a total loss in the fields. Around Templeton fully 30,000 sacks remain unthreshed. While farmers are depressed, stockmen are rejoicing over the fact that pasture will soon be good. The grain harvested and saved in this county this year will amount to 700,000 sacks.

LARGE ACREAGE IN GRAIN.—*Tribune*, Oct. 20: The rain of the past week caught many of the farmers near Creston unprepared. There are many grain crops unthreshed and considerable hay in stack. There was a larger acreage put into grain this season in this section than at any time since the country was opened up for general farming. A few crops in patches yielded immensely, but the large acreage that made only a small amount cuts the general average down. The wheat crop for the whole acreage sown and harvested foots up an average of eleven bushels per acre. Some estimates are as low as eight bushels of barley while some few acres on the Vachell ranch, turned off a big yield. Yet the average for this section is only fifteen bushels per acre.

Santa Cruz.

FIRST HOP SALE.—Watsonville *Pajaronian*, Oct. 19: The first sale of Pajaro valley hops for the season of 1899 was made last Saturday by Wm. McGrath to P. Wolf & Co. of San Francisco. Forty-two tons were sold at 11c per pound.

SPLENDID BEET CROP.—*Pajaronian*, Oct. 19: The sections of Pajaro valley south of town, on both sides of the river, are producing enormous crops of beets. There doesn't seem to be a miss in any of the fields. Over in the Mud Flat district John McGowan has a crop on 200 acres which promises to be one of the heaviest ever produced in California. It is very apt to crowd up to the 4000-ton notch. About one-fourth of the beet crop of Pajaro valley has been delivered at Spreckels, and but little impression has been made on the big crops. The Pajaro valley will lead all other sections in tonnage of beets furnished the Spreckels mill, and it is going to show the highest average yield per acre of this section. It is estimated that the Pajaro valley crop will average thirteen tons—worth $58.50—per acre; and last week's rain is apt to add to that estimate. The beet crop of Pajaro valley will bring in a quarter of a million dollars.

Santa Barbara.

BIG WATER STRIKE.—*Press*, Oct. 17: The largest flow of water ever struck in mountain tunneling in this section was struck last evening at the Whitehead tunnel at a distance of over 175 feet in the mountain. Several miners who were near the end when the strike was made narrowly escaped injury. A conservative estimate makes the flow about 26 miners' inches, and, with 3 inches previously struck, 29 miners' inches are flowing from the tunnel, 5 inches in excess of that used by this city. The water spurted from all sides of the tunnel and from the top, and it came so suddenly that the miners were flooded before they realized what had happened. To-night a greater flow is running than when the strike was first made. The tunnel is owned by Cyrus McCormick, Ralph Radcliff Whitehead, E. Sawyer, J. W. Gillespie and Henry Dater, and is being made to get a supply of water for irrigating the orange and lemon ranches in the Montecito valley.

Solano.

PROFITABLE SHEEP.—Dixon *Tribune*, Oct. 20: One of our farmers, who is the owner of 110 sheep, reports this year a clear profit off that number of $500. There is another instance, also, of a farmer not far away reporting a similar profit off of the same number of sheep. This represents a sale of two clippings of wool, sale of lambs and mutton. This is a business which can be carried on by any farmer in one corner of his field. Sheep are something which require very little forage and which can be utilized in several ways in clearing fields of oats, weeds and undesirable growths. It promises in time to be a very important side issue.

Sonoma.

LEASE OF SUGAR BEET LAND. — Petaluma *Courier*, Oct. 18: The lease of the Lauritzen ranch, near Reclamation, to the California & Hawaiian Sugar Co. has been consummated. The lease covers 1000 acres of reclaimed sediment marsh, and is made for three years, at an annual rental of $6 per acre. There is also a provision for an extension of two years on the lease by the sugar company.

WOOL SALE. — Santa Rosa *Press-Democrat*, Oct. 21: Much interest centered in the wool sale which took place at Cloverdale to-day. There was a good attendance of buyers from points in the district and a few from San Francisco. Several hundred bales of wool changed hands. The ruling prices were 14 cents to 15½ cents per pound, an increase of several cents over last year's prices. But for the recent heavy rains it is thought that over 1000 bales would have been disposed of to-day, but the wool could not be hauled to town. S. Penschower and W. T. Brush of Cloverdale were the principal purchasers.

NEW FRUIT PRESS.—Santa Rosa *Republican*: Bacon & Sons have invented a lever cogwheel press for packing dried fruit in boxes. The lever is attached to a circular cog, which works against a cog bar. The lever is locked, both when raised and lowered, by a neat mechanism, and the box is held firmly in the box rack by a spring lock. When ready for removal the box is released by pressing a foot spring. D. W. Hietstuman says that a man using this press can daily pack two hundred faced boxes of fruit.

Sutter.

FIG PACKING.—Yuba City *Farmer*, Oct. 20: At the Rosenberg cannery a large force is still at work packing figs and other dried fruit and raisins. Over 250 tons of figs have already been packed and still there is a large amount on hand. The figs are put up in one-pound bricks, wrapped in oiled paper and tied with fancy silk ribbon. Ten of these bricks are packed in one box and make a very choice, marketable product. The extent of the packing can be estimated by the amount of ribbon used, over $2000 worth having already been ordered this season. Fig paste for making fig cookies is also made in large quantities by grinding the figs. Over 200 packers are now at work there. The dried fruit department is running night and day owing to a rush of orders. Carload lots of prunes and peaches have been received from Corning, Red Bluff and elsewhere, and also raisins from Dunnigan. The prune dipper, dried fruit grader and raisin stemmer have been running steadily and several carloads have been shipped daily.

Tehama.

COTTON GROWING.—Red Bluff *News*: James F. Barkley brought up a few samples of cotton which were grown at Tehama. The cotton was planted at the depot as a matter of curiosity, and the results show a fine quality. The plant is now in its various stages of development from the bud to the fluffy blossom.

Ventura.

SUGAR FACTORY CLOSED. — Nordhoff *Ojai*, Oct. 14: The sugar factory at Oxnard closed its initial campaign last Friday noon, with a record of having crushed 70,000 tons of beets and paid out to the farmers of that vicinity over $250,000.

WASHINGTON.

GRAIN STANDARD. — *Northwest Pacific Farmer*, Oct. 19: The State Grain Committee says that the staple of grain will remain the same as it has been, blue stem being 62½ per bushel for choice milling; 58 for No. 1; 56 for No. 2; globe choice milling, 60½; No. 1, 58; No. 2, 56; No. 3, 54.

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The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

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THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

Passing of Summer.

With oh! how sweet and how resigned a face
Fair summer goes unto her death. The trees
Still shine with green, and still the miser bees
Ply their old task, and still the brook doth race
With gentle music, and the garden's grace
With varied flowers is decked, and still the breeze
Is fraught with balm, and full-fledged birds release
Their late-learned songs, while autumn comes apace.

Soon deep shall lie the snow upon the grave
Of all dear things, and o'er our graves shall lie.
With dying summer's grace may we depart,
Smile in the face of that which bids us die,
And look with hope upon the welcome wave,
With no vain tears and with a sunny heart.

October.

Ay, thou art welcome, heaven's delicious breath,
When woods begin to wear the crimson leaf,
And suns grow meek, and the meek suns grow brief,
And the year smiles as it draws near its death.

Wind of the sunny South! O, still delay
In the gay woods and in the golden air;
Like to a good old age released from care,
Journeying in long serenity away.

In such a bright, late quiet, would that I
Might wear out life, like thee, 'mid flowers and brooks;
And, dearer yet, the sunshine of kind looks,
And music of kind voices over nigh;
And when my last sand twinkled in the glass,
Pass silently from men, as thou dost pass.

—Bryant.

A Game Postponed.

It had been snowing for two days, and now the snowplows were out, and the first really good sleighing of the winter would begin.

The great fields lay in unbroken whiteness. The woods along the banks of the Iowa river were billows of snow. The large farmhouses, and the number and size of the barns and other outlying buildings, gave evidence of the richness of the soil that lay buried and resting for another harvest.

Judge Hilton's house had the distinction of being built of brick. There was a dignity in its solidity over the usual white frame houses on the surrounding farms that well became the dignity of the judge.

The judge was New England born and bred. There is a veneration for Puritan ancestry in the entirely Western soul that the Puritan mind still has for good old Puritan blood.

Isabel Hilton was her father's housekeeper and only child. The mother had died while she was a baby, and she had ruled the house and had been ruled by her father since that time.

She had all father's reserve and pride of family, and at the same time his happy nature and gracious manner, that won her friends when she desired to make friends. Those who found it impossible to win their way into her favor called this reserve in Isabel her "down East airs." There was a discouraging belief among the young men in the country around, some of whose fathers owned farms and herds of cattle large enough to divide and establish them in enviable beginnings, that if the judge thought any of them worthy to win his daughter's love there would never be an opportunity to gain the consent of the young lady.

The judge had theories against Isabel's entertaining young men alone, nor would he permit her to go with any escort but himself.

The privilege of spending the evening with Isabel, in the presence of her father, was considered a mark of distinction, and held the one so honored on the wave of hope.

"If a fellow had the backbone to outsit the judge some night he might propose to the daughter," was the comment Mr. Holderman made to his son one day. Clint Holderman had been one of Isabel's most persistent admirers.

"The trouble with all of you is, you go there shaking in your boots, and talk to the judge, and come away with a big head because you dared to do that; but I tell you, if I was a young fellow I'd outsit him if I sat till the break of day. It's some such pluck as that the judge is looking for. He raised her and he knows her value; and she ain't going cheap to none of you. If you can go in ahead of the other fellows and tow her in, I'll give you $10,000 and deed you a section of land. Come now, let's see what you're made of?"

In some way his lordly promise got adrift the current of country gossip, and roused the admirers of Isabel, one and all, to new interest in the contest. Large stories were told of the late hours the judge kept that winter with Isabel's suitors. Clint Holderman drove to the brick house early on the evening that he had set his mind with flint-like determination to give his father's advice a trail.

It was a cold night, and as he sped along in his new cutter, drawn by a handsome span of black horses, and well tucked in with buffalo robes, his heart was warm with hope.

He had spent many evenings of the winter playing chess with the judge, so he was sure of his welcome; but tonight he looked beyond all this. He thought of the hour when, at last, with his heart and understanding touched, the judge would bid them good-night, and he should be left alone with Isabel.

There was no handsomer young man in the country than Clint Holderman; none who danced better, or who drove better horses; but more than all this, the judge had told him that he had never known a man who had played a better hand at chess.

This was an encouragement, indeed; for if the judge had a weakness, it was for chess, and it would be decidedly pleasant to have a son-in-law who could be to him such a ready source of entertainment. As he drove into the yard the judge came out on the side piazza.

"Good evening," he called out, "just drive on to the barn; the man will put out your horses."

One of the farm hands came out of the stable as he spoke, and Clint threw him the reins and followed the judge into the house.

"Snapping cold, but splendid sleighing," the judge said while Clint was pulling off his overcoat in the hall.

"Yes. I believe my ears are touched," Clint answered, rubbing them.

"Isabel is popping some corn. She'll be glad you happened over to help eat it."

He led the way into the long sitting room at the end of the hall.

Isabel was on her knees before an open wood fire, shaking a corn popper. The white kernels snapped with a pleasant sound.

The lamp had not been lit, but the firelight made the room bright and cosy.

"Isabel, here is Mr. Holderman, my dear."

She sprang up.

"I didn't hear you come in. Good evening. Come over here by the fire. Why, it's Clint!" she said, as he came into the glow. "I thought father meant your father. I never think of you as Mr. Holderman. Have some corn."

She held the popper open before him. "I'm sure I never think of you as Miss Hilton," he said, plunging his hand into the corn, and laughing. "That would be a little too much like strangers, as long as we've known each other."

The judge cleared his throat.

"I have always decidedly disliked the informality of country people in calling everyone by their Christian names," he said. "It leaves no degree in intimacy. But I suppose it is impossible to know where to draw the line."

Isabel went back and knelt before the fire again.

"Oh, I don't know," she said, shaking the popper vigorously. "As long as it is a custom I don't think anyone feels it a mark of special intimacy, and so the custom is protected by being a custom."

The young man sat awkwardly in his chair and was silent.

They seemed to be closing the doors against any thought he might have of closer intimacy with the family.

The judge left the room for a moment, and came back with a lighted lamp, and placed it on the claw-legged table in the center of the room. He had put on a long dressing-gown faced with crimson quilted silk, and now he drew his great chair up before the fire, and stretched himself out in it.

"Come, Clint, I will let you shake the popper for me, and I'll go down cellar and get some apples."

Isabel looked at him with a merry twinkle in her eyes, as she held the handle towards him and then ran out of the room.

Clint grasped the handle of the popper with the delight of success flooding his veins. Isabel had never before given him a reason to believe that she cared for him that could compare with that look.

Daylight would find him sitting right there, but he would beat the judge's watch and gain the opportunity of speaking to her.

It was a delightful evening. The judge partook of the popcorn, and the conversation was more than usually affable and entertaining.

Isabel sat on the opposite side of the fireplace and crocheted on a blue wool scarf. There were pink spots burning her cheeks and her eyes were very sweet.

The time passed on until the noisy clock on the mantel clearly and forcibly announced the hour of ten.

It had been comparatively easy thus far, but now was the time when Clint usually went home.

The real contest was about to begin.

The judge shoved his chair back to the table, picked up a paper, and began to read.

From time to time he glanced over the top of his paper at the two talking before the fire, but still read on.

When the clock struck eleven, he threw the paper, down, pulled his chair back to the fire, and drew the young man into an animated political discussion.

Isabel stirred about the room, putting things in order for the night.

It was nearing midnight. For the last fifteen minutes the conversation had begun to lag.

There were cold moments of complete silence.

"Had you noticed that I had traded horses?" Clint asked in one painful pause.

"No; have you?" Isabel asked, coming forward with interest.

"Yes. I've traded the grays for George Merwin's blacks. Of course there was considerable to boot. They go like the wind in my new cutter."

"I should think they would," Isabel drew a deep breath. "I do like black horses. I never cared for gray ones. I always think of having to look for a red-headed girl," she laughed. "I should think you'd always be on the lookout for one when you ride behind them."

"Perhaps Mr. Holderman is looking for a red-headed girl," the judge said, with a queer look in the direction of the young man. "There's a superstition that a red-headed girl has a violent temper. Now, that isn't always true," he said, after a moment's silence, in which his thoughts seemed to have been far away. "Isabel's mother had as sweet a disposition as any woman that ever lived, and her hair was the color of that deep flame there."

Isabel was leaning on the back of her father's chair.

"Why, father, you've always said my hair was almost the color of mother's. I'm sure no one thinks of calling mine red."

"I don't know about that," the judge laughed; "and don't know about the temper, either," he added, reaching up and pinching her cheek.

"I never liked red hair, but I'm sure I don't believe in that sign," Clint said clumsily. He gazed fixedly into the fire, and felt as though he were turning to stone.

The clock struck twelve with a resonant, defiant stroke, as though it understood the contest in which it held the stakes, and refused to commit itself as to whose side would win.

At a quarter past twelve the judge stood up.

Clint felt his heart beating wildly. The moment for his triumph was at hand.

The judge crossed to the bay window at the other end of the room. Isabel's eyes followed him nervously.

From one side, among the geraniums and ivy, he drew the chess table, and pushed it before him toward the fire.

"I think it would be pleasant for us to have a game of chess," he said affably.

Clint sprang to his feet.

"Oh, thank you, sir. I think I must be going home."

"Oh, must you? Well, come over again and we'll get at it earlier in the evening."

It seemed hours before Clint finally found himself out on the smooth, snow-beaten road, spinning along toward home.

He would have been completely wretched in his defeat if it had not been for that look in Isabel's eyes when she handed him the corn popper. He could endure his father's ridicule, and wait his time, remembering that look.

And so he made a good story of it at breakfast the next morning, and added, elevating his voice above the roaring laugh of his father and the shrieks of his mother and sister:

"Never you mind. The judge isn't through with me yet. I've only fired my first gun. I'll own when I came out of the house I was out of shot, but I haven't given up the fight yet."

"Oh, you'll let some other bantam rooster carry her off. I guess I'm safe enough on the cash and land I promised you," his father answered with a provoking laugh.

"Don't you count on it," Clint said, springing up from the table with fire in his eyes. "I'm not downed yet, I tell you."

"All right, sonny; we'll have a big dance to celebrate the engagement, and an oyster supper. I suppose there's no rush about ordering the oysters?"

"I'll hold you to that," Clint said, bringing his fist up against the door. "If the thing's settled by Saturday week, we'll have the dance. If it isn't—well, it won't be. I'm going over to town after the mail."

He turned and went out of the room. As the door closed, he heard his sister say, tittering—

"Clint has about as hard a time courting Isabel as you had courting mother."

This was a warm thought of comfort to him. At least Isabel had never denied him her love, and he knew that his mother had been hardly won.

It was a bright winter morning. Before him was a clear stretch of road to the Iowa river, three miles away.

The white fields on either side

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sparkled in the sunlight. The great drifts, rolled up along the fences, looked blue in the shadows of their fantastic terracings. The sleighing never was better.

All at once Clint heard the noise of sleigh-bells and a voice called to him,—

"Give me the road."

He turned and saw Isabel Hilton coming toward him, driving her own bay ponies at a furious rate.

Clint drove quickly out at one side of the road, and she sped by him.

He saw that her horses were running away.

There had been no alarm in Isabel's face, though she was holding the reins with all her strength, and had looked neither to the right nor the left as she passed him. If there was one thing more than another that the Holdermans prided themselves in, it was their knowledge of a good horse and splendid horsemanship.

Isabel Hilton's love of horses and her daring in driving them had been one of the first things that had won Clint's admiration. Her control and courage now appealed to him tremendously. His own horses seemed to have caught the spirit of the runaway pair ahead as they flew along over the snow after them.

Clint knew that at any moment Isabel's slight arms might lose the power to hold those tense reins so securely, and the horses dash to one side, and the crash come, and there was nothing he could do. On went the cutter ahead of him, swaying on the left and right, and still keeping the road. The bridge across the Iowa river was just ahead. Clint thought of the bridge with terror. If the cutter swayed to one side, as it was doing now, the crash would come on entering.

He saw Isabel's strength tightening on the reins, and knew that she felt the danger.

Her horses flew up the slight incline to the bridge, and Clint braced his nerves to withstand the shock. But to his amazement he saw that the horses were slowing up and entering the bridge with all the respect of well-trained hroses; and by the time they were over the frozen current below they were walking as quietly as though they had decided on that point as the end of their excitement.

Clint entered the bridge as Isabel was leaving it. She drove to one side of the road and waited for him to come up to her.

"I'll let you go ahead of me now, if you want to," she called out as he stopped.

"Look here," Clint called back, "did you think of those horses stopping at the bridge that way, I'd like to know?"

"Yes; didn't you? I knew they might not, but I thought they would if I could keep them in the road. Didn't you think of their doing it?"

"Well, no. I had something else to think about," he answered, looking at her admiringly.

Isabel's face flushed, but she looked at him smiling.

"I wasn't afraid as long as the road was clear, but I should have lost all courage if I had seen a team coming."

"Talk of pluck!" Clint said, driving a little nearer to her cutter. "Isabel, what did you think of last night? What did you think of me, anyway?"

She drove out into the road ahead of him, and then looked back over her shoulder, laughing:

"I thought if you had only waited half an hour longer I would have been eighteen. It is my birthday to-day. I'm of age." And with that she touched her ponies with the whip and kept well ahead of him all the way to the village.

When they met again it was before the fire in the sitting room at the brick house where they had held the hours the night before. But the contest with the judge had lost its seriousness.

Between them he sat imperturable, as he had sat the night before; but to-night he was only an amusing barrier, and not a serious obstruction. Love had leaped the bounds, and was free. It triumphed in their eyes as they looked across him, and over him, smiling knowingly at each other.

"We're going to have a dance over at our house Saturday week, and an oyster supper. It is going to be a celebration of a great event in our family," Clint announced with a meaning gesture to Isabel.

"What's the event you're celebrating?" the judge asked, looking over his spectacles.

"Well, that's something of a secret until to-morrow. I hope I can tell you then. You must be sure and come. We're going to have a great time."

The judge looked at Isabel.

"Do you think we can go, my dear?"

Her cheeks were rosy.

"Why, yes, I should think we could, father.

"Thank you, then. We'll come," the judge said, leaning back in his chair, and looking at the ceiling. "And now would you like to play that game of chess we didn't have last night?"

It was evident he had no intention of giving up the field. Clint did not answer. He was not as fearless of the judge as he had supposed. His heart throbbed excitedly.

Isabel pressed her hands together hard and looked into the the fire. The clock ticked loudly, emphasizing the silence.

Finally the judge brought his eyes from the ceiling, and looked at the young man.

"Didn't you hear what I said to you?" he asked, running his hand through his forelock and grasping the arm of his chair.

"Yes, sir, I did," said Clint, respectfully.

"Well, then?"

"If you'll allow me to say it, sir, I think I've won the game already."

"What's that?"

"I believe sir, I've won the game."

The judge glared at him for a moment, and then his eyes fell on Isabel.

He looked from one to the other.

The ticks of the clock seemed to choke each other.

"Well, my, boy," he said, drawing a deep breath—the tears had started to his eyes—"I don't know but you have." He held out his hand. "I don't know but you have, my boy."

"Thank you, sir, thank you."

Her father reached the other hand to Isabel, and stood up and drew her into his arms, then pushed her from him, and crossed the room to the door leading into the hall.

Isabel's eyes followed him lovingly.

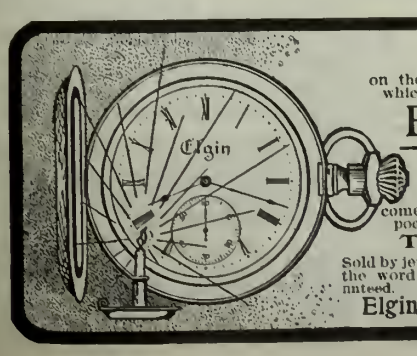
He turned and looked back at them and smiled.

"Well, children, I'm feeling a little tired to-night," he said, "and I think, if you'll be kind enough to excuse me, I'll go to bed."

He went out and shut the door.—McClure's Magazine.

City Masher—Ah, how's the milkmaid?

Rural Damsel—'Tain't made at all, sir, we get it out of the cow.



A Little Light

on the watch subject is found in our new booklet, which all are invited to send for—free of cost.

Elgin Ruby Jeweled Watches

come in various sizes, grades and prices, to suit every pocket. Recognized universally as

The World's Standard.

Sold by jewelers everywhere. An Elgin watch always has the word "Elgin" engraved on the works—fully guaranteed.

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Politeness in the Home.

It is significant to observe how some men fail to know how to treat their wives and sisters when they meet them. It seems to them quite unnecsary to lift their hats, or to give their nearest and dearest the courtesy they would freely render to any woman outside of the domestic circle. This should not be, and the sooner a revolution is accomplished the better. The ablest and most persuasive treatise on the etiquette of the home will not be able by itself to work the change, although it would be helpful toward that end. What is needed is the right training of boys and girls. Courteous behavior should be enforced by parents in the same way as other good qualities are taught. One of the most successful instructors of the young in our day bears this testimony: "People complain of the way children behave, and lay the blame of their behavior on the day school; but if they would only make the children do at home as they require to do in school, matters would be different. They laugh at the child when he lifts his hat or says 'Please' or 'Thank you,' forgetting that others are trying to make up for their neglect of duty." This word in season should stir up parents to a sense of the importance of cultivating by precept and example the requirements of domestic etiquette.

A Hurry Call.

A head adorned with shaggy and unmanageable whiskers was thrust out of the window, and a voice that fitted the beard inquired:

"What is it?"

"Oh, is this Mr. Higgins'?" came a shrill voice from the shade of the doorway below.

"Yes."

"Please come to No. 414 High street just as quick as you can and bring your instruments."

"I ain't no doctor; I'm a carpenter. Dr. Higgins lives in the next street," and the window came down with a slam that told of former experiences of the same kind on the part of the humble artisan.

But Mr. Higgins had not got comfortably back into bed before the bell rang again, and, uttering some forcible remarks, he rose once more and went to the window.

"Well, what do you want now?" he ejaculated.

"Please, sir, said the little voice, "it's you we want; pa and ma is shut up in the foldin'-bed, an' we can't get 'em out."

The Uses of Olive Oil.

Nothing is better for the delicate than olive oil as an article of diet.

Encourage the semi-invalid who finds cod-liver oil distasteful to use freely mayonnaise dressing, for which a taste is easily acquired in the very exceptional cases where it is not natural.

Here, in a palatable form, are obtained nearly all the properties of the offensive cod-liver.

For fragile children, mothers will find a free use of the nutritious olive oil invaluable.

Not only should it be taken as a tonic in the form of seasonings and sauces, but, if there is any tendency to weakness of lungs, it should frequently be rubbed into the chest.

The pores of the skin will absorb it greedily by the handfuls, and it is found to contain both healing and strengthening properties.

Broadmindedness.

In men whom men condemn as ill,
I find so much of goodness still;
In men whom men pronounce divine,
I find so much of sin and blot—
I hesitate to draw a line
Between the two—where God has not.
—Joaquin Miller.

"October days, how calm they seem,
How nature seems to doze and dream,
With hills wrapped in purple haze;
The fields in silent slumber lie,
The white clouds sail across the sky—
How fair are the October days."

DOMESTIC ECONOMY.

Domestic Hints.

Sweet Sandwiches.—Spread thin slices of buttered bread with strawberry jam and put together; or spread lady fingers, or a thin layer of sponge cake, cut in hearts or diamonds, with orange marmalade and put together.

Stewed Tomatoes.—Scald and peel, cut fine and stew till pulp is soft—no longer, or seeds will be hard. For one quart add two tablespoons butter, one teaspoon salt and one saltspoon pepper; add two tablespoons sugar if preferred. Stew five minutes longer and serve hot.

Preserved Plums.—Plums must not be too ripe. Allow two cups water, two cups sugar to each pound of fruit. Boil sugar and water, remove scum, put in the plums, wiped and pricked with a needle. Cook gently, twenty minutes. Skim out, drain, fill jars. Boil syrup down till thick and clear. Strain it and boil again. Fill jars to overflowing and seal.

Little Cup Cakes.—One-half cupful of butter, a cupful of sugar, one and one-half cupfuls of flour, two eggs, half a saltspoonful of salt, a small teaspoonful of baking powder (sifted into the flour), enough milk—about three-quarters of a cupful—to make a thick batter. Bake in muffin pans until the cakes change color. Cover with boiled icing, white and pink, if you like. These are dainty and tempting.

Stuffed Eggs.—Boil the eggs until they are hard. Ten or fifteen minutes will be required. Cut them lengthwise. Take out the yolks and mix them with a little vinegar, salt, pepper and mustard to taste, into a rather thick paste. Put this back into the eggs, placing the two halves of each together. The eggs may be wrapped in white tissue paper, fringed at the ends and twisted together as in the case of "kisses."

Oyster Omelette.—Beat the yolks and whites of five eggs separately; just before turning them into the omelette pan mix them together and beat them again; have enough melted butter in the pan over a quick fire to keep the eggs from sticking; turn the eggs in when the butter bubbles; do not let it brown; when the eggs begin to harden round the edge of the pan sprinkle evenly over the top a dozen chopped oysters; season well with salt and red pepper; fold the omelette carefully and quickly turn it on a hot platter and serve at once.

Spiced Cantaloupe.—Spiced cantaloupe is a relish esteemed by many. Half-ripe cantaloupes are washed, pared, seeded and cut in slices, then packed in a stone jar and covered with cider vinegar for twenty-four hours. At the end of that time the cantaloupes are taken out and half the liquor thrown away. To each remaining quart allow three pounds of sugar, with stick cinnamon, cloves and allspice to taste. Boil together a few moments, removing the scum as it rises. Then put in the melons, boil twenty minutes, skim out the melons, boil the syrup a few moments longer, then pour over the fruit.

MACBETH'S "pearl top" and "pearl glass" lamp-chimneys do not break from heat, not one in a hundred.

They are made of tough clear glass, clear as crystal.

They fit the lamps they are made for. Shape controls the draft. Draft contributes to proper combustion; that makes light; they improve the light of a lamp.

Our "Index" describes *all* lamps and their *proper* chimneys. With it you can always order the right size and shape of chimney for any lamp. We mail it FREE to any one who writes for it.

Address MACBETH, Pittsburgh, Pa.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 25, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	70⅝@71⅛	74¼@74¾
Thursday	70¼@71	74⅜@74¾
Friday	70¾@70¼	74⅛@74⅝
Saturday	70¼@69⅞	74⅛@73⅝
Monday	69⅞@70⅞	73⅞@74⅝
Tuesday	71⅛@70⅝	75 @74¼

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	6s 0½d	6s 1½d
Thursday	5s 11¾d	6s 1⅝d
Friday	5s 11⅝d	6s 0⅞d
Saturday	5s 11¾d	6s 0⅞d
Monday	5s 11⅝d	6s 1¼d
Tuesday	5s 11⅝d	6s 1¼d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 12⅛@1 11¾	1 17¼@1 16⅞
Friday	1 11½@1 11¼	1 16⅞@1 16⅝
Saturday	1 11¼@1 10½	1 16⅝@1 16⅜
Monday	1 11½@1 11⅛	1 16½@1 17⅝
Tuesday	1 11¼@1 11	1 17⅜@1 16⅝
Wednesday	1 09¾@1 10⅛	1 16 @1 16⅝

Wheat.

The market for actual wheat has not changed materially since last review, and is little if any more unfavorable for sellers than a week ago. The speculative markets have been on the quiver, one day giving indications of going upward and the next day were tending down in the mud, but they did not move very far in either direction. Fluctuations were more marked on the local Call Board than in either Eastern or foreign centers. Dec. wheat dropped about 2½c and May about 1¾c. In Liverpool Dec. option remained practically unchanged, May showing a decline for the week of the equivalent of 1c per cental. In Chicago the advances and declines for the week about offset each other. Market at the close (Wednesday noon) was weak for options, but from the experience of the past few days it would not be surprising to witness a speedy recovery.

There was much said a few weeks ago, before the war in South Africa was a settled fact, as to the situation there being likely to have a pronounced effect on wheat values, particularly if war was declared, in which event prices for this cereal were to move skyward. The war is now on, but the upward movement in values for wheat has not been realized. On the other hand, wheat has been sagging most of the time size active hostilities commenced. And what is still more remarkable to note, in face of the predictions above mentioned, the depression of the past fortnight in the wheat market has been in a measure attributable to the war which was going to boost values. The depression was brought about partly by advances in freight rates, in consequence of numerous steamers being pressed into government service for transporting troops and the munitions of war. High freights by sea and scarcity of ships are handicapping the wheat market to-day more than any other one thing. When freights move upward the advance must either be deducted from the price of wheat here or added to the cost abroad. Whether the price is reduced here or advanced abroad, wheat has to bear the burden. The writer failed to see from the beginning why war in South Africa should improve the wheat market, unless through a wild speculative movement in anticipation of some extraordinary demand being developed. There was nothing to warrant expecting any very heavy legitimate demand, however, on account of this war, and the speculative market failed to respond, even in the mildest sort of manner, to the bullish ideas previously advanced in connection with war talk. The matter is about on a par with the excuse frequently made of a barometer on the local Call Board market to put prices up or down, only the barometer game is generally made to work successfully, while in this particular instance the war business proved a flat failure so far as booming wheat is concerned. A big European war would be a wholly different affair, as it would be apt to greatly decrease production. There is nothing phenomenal in wheat being depressed under existing conditions. In fact, all things considered, wheat values are holding up remarkably well. Not only are freights high, but it is extremely difficult to get ships ready for loading. Every dock in San Francisco harbor is engaged for weeks to come. There are vessels now in port with inward cargo, and engaged for wheat outward, which will not be able to commence taking wheat much before the middle of December. In the meantime most of the warehouses at tidewater are loaded with grain to their utmost capacity. It is not reasonable to assume that this state of affairs will be of long duration. Neither of the two wars now being prosecuted bids fair to be lengthy, and the termination of either would speedily have a weakening effect on ocean freights and inure in corresponding degree to the benefit of wheat.

California Milling	$1 07½@1 12½
Cal. No. 1 shipping, alongside	1 07½@——
Oregon Valley	1 05 @1 10
Walla Walla Blue Stem	1 07½@1 10
Walla Walla Club	1 02½@1 07½
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.12⅛@1.09¾.

May, 1900, delivery, $1.17¼@1.16.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.09¾@1.10⅛; May, 1900, $1.16@1.16¾.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s10d@6s10½d	6s3½d@6s4d
Freight rates	25@27½s	33¾@36¼s
Local market	$1.17½@1.20	$1.07½@1.08¾

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The same causes operating against wheat are influencing the flour market unfavorably to the selling interest, viz., high ocean freights and inadequate transportation facilities for the time being. Large quantities of export flour are now awaiting freight room on the outgoing steamers. The freight rate on flour to China has been advanced from $4 to $6 per ton, to take effect Nov. 1st. The movement on local account is of a light order.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

While the outward movement of this cereal has been less active during the past week or two than for some time preceding, the decreased movement has been due to the hampered condition of shipping and not to lack of demand. Exporters have been unable to get vessels for loading as rapidly as they desired, otherwise the clearances of barley lately would likely have been of much the same liberal proportions as earlier in the season. The slow dispatch of vessels now being experienced is likely to continue for at least a month or two to come. Values for desirable shipping grades of barley, however, show no quotable depreciation, nor are they likely to during the balance of the season. In fact, there is more apt to be some appreciation experienced in prices of choice to select brewing barley, as the season advances, than there are likely to be declines. Common feed qualities continue to be offered rather freely as compared with the immediate local demand, and market for barley of this class is not displaying firmness, although prevailing rates have not changed materially since previous review. In the speculative or Call Board market there was not much done, but fluctuations were greater than previous week. Owing to the good prospects for this early date for crop of 1900, there is little or no inducement for speculators to go long on the market for remote deliveries, and there are none who care to short the market heavily at current rates. There are some operators who are now short on the market through early sales, and they are by no means standing on velvet.

Feed, No. 1 to choice	85	@	87½
Feed, fair to good	77½	@	82½
Brewing, No. 1 to choice	90	@1	00
Chevalier, No. 1 to choice	1 10	@1	15
Chevalier, No. 2	—	@	—

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 87½@89⅝c.

December, 1899, delivery, 87½@89⅞c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, ——@——c. Nothing was done in barley at this session.

Oats.

This market has presented a generally healthy condition the past week, with a very good demand, all kinds and grades coming in for attention, and values in the main were well sustained at the range below quoted. Considerable quantities of this cereal are now going forward to interior points, not only for feeding but also for seed purposes. Choice Blacks and Reds are especially in request for seeding, and where the quality is particularly desirable, are commanding an advance on quotable rates. High grade oats of both White and Colored sorts are in very limited stock, most of the present offerings being common to medium qualities. Choice to select descriptions are being held back in many instances in anticipation of a better market later on.

White Oats, fancy feed	1 20	@1	25
White, good to choice	1 15	@1	17½
White, poor to fair	1 07½	@1	12½
Gray, common to choice	1 10	@1	20
Milling	1 15	@1	22½
Surprise, good to choice	—	@	—
Black Russian	90	@1	05
Red	90	@1	12½

Corn.

Values for this cereal are being maintained at much the same range of prices as noted in last issue. Market is fairly stocked with Eastern Large Yellow and White through recent arrivals, but supplies are mostly in second hands, having been placed prior to being received. There is in consequence no undue pressure to realize, and market is moderately firm at the prevailing rates, which are based on prices East, plus freight charges and expenses of sacking and handling. New crop California corn is beginning to arrive in quotable quantity. Domestic Small Yellow, thoroughly dry, is in scanty stock and trading in the same is necessarily of a retail order. Very little of this variety is required to satisfy the inquiry at current figures.

Large White, good to choice	1 07½	@1	10
Large Yellow	1 05	@1	07½
Small Yellow	1 40	@	—
Eastern Mixed	97½	@1	02½

Rye.

There is a very fair demand and market is tolerably firm at the prices quoted. Offerings are light and there is no evidence of any great quantity being on hand in the interior.

Good to choice, new	1 00	@1	02½

Buckwheat.

Stocks continue of insignificant proportions and the market is against buyers. Values are poorly defined. Quotations are based mainly on the bids of local millers.

Good to choice	2 00	@2	15
Silverskin	—	@	—

Beans.

Further strength has been developed in the bean market, with active inquiry, particularly for white varieties, Bayos and Limas. Holders as a rule are not disposed to let go at current rates, comparatively high though they be, anticipating still firmer values in the near future. Much of the recent purchasing has been on local speculative account, and it is natural that these holdings should not be offered on the present market, as the improvement since these beans were bought has not been sufficiently pronounced to make it an object to realize. The situation is a decidedly strong one, the crop being light and stocks small in the hands of dealers, both here and in the East. The question now to be solved is how far upward can prices be crowded without restricting the consumption to an unwarranted degree, or without causing foreign beans to be landed here in sufficient quantity to enable consumers to tide themselves over after a fashion until another season. During the Klondike excitement speculative buyers took hold of Bayos at rather stiff figures, anticipating immense profits, but the profits were never realized. Bayos were higher during the Klondike boom than they are at this date.

Pea, fair to good, 100 lbs	2 75	@2	90
Small White, good to choice	2 75	@3	00
Lady Washington	2 20	@2	35
Butter, small	3 75	@4	00
Butter, large	——	@——	
Pinks	2 15	@2	35
Bayos, good to choice	2 35	@2	50
Reds	3 75	@4	00
Red Kidneys	2 50	@2	75
Limas, good to choice	4 85	@——	
Black-eye Beans	3 75	@——	
Horse Beans	——	@——	
Garbanzos, large	2 75	@3	00
Garbanzos, small	1 60	@1	75

Advices of recent date by mail from New York City give the following review of the bean market, prices quoted being per 60-lb. bushel:

We have to go back to the records of 1881 to find anything like a parallel to the present situation. The advance in prices during the past six weeks has been almost phenomenal, ranging from 45c on small white beans, up to 70c on Marrow, which have shown most improvement. Several things have combined to bring about this result in the first place the crop is known to be considerably short of last year, there is a closer clearance of old beans in all parts of the country than for several years past, and the demand since the first of September has developed a force entirely unlooked for. As farmers have been busy harvesting other crops they have been in no hurry to market the new beans, and this left dealers with insufficient supplies of all kinds. These conditions have prevailed right up to the close, and the strength of the situation shows no abatement. Marrow have jumped 20c this week, last sales at $2.25, but most holders are now asking $2.30 for choicest quality. Several lots of new have come forward and in most cases have sold at same price as old, the small size of the new beans being much against their sale either to home trade or for export. Medium and Pea have kept the same relative distance from Marrow, but have shared fully in the trade and best lots are commanding $1.80 generally at the close, a few new State Medium reaching $1.85. Early sales of new Red Kidney were at $2.25, then the price rose to $2 85, and at the present writing $2.40 is as low as they can be bought, with some holders asking more; several cars of choice old were sold at $2.10, but late business has been at a further advance of 5@10c. No White Kidney here. The scarcity of Yellow Eye has forced the price up to $2, at which the last lot in first hands was sold on Thursday. Turtle Soup have moved only in a jobbing way, but a stronger feeling has been shown in sympathy with other kinds, and last sales have been mainly at $2.10, few choice new at $2 15. California Lima have shared in the improvement, receiving additional strength from the somewhat excited western advices; no stock to be had under $3.10 at the close. So few green or Scotch peas on the spot that sellers get their own price.

Dried Peas.

There is a very good demand for all Dried Peas, but more especially for choice Green. The market is firm at the prevailing quotations. Stocks are small, both in first and second hands.

Green Peas, California	1 85	@2	00
Niles Peas	1 40	@1	50

Wool.

A moderate amount of business is doing in grease wools on local account, mainly in free Fall, and more of this sort than are offering could be placed at current rates. In other fleeces, however, there is nothing of consequence doing. All operators are giving heavy and defective wools the go-by for the time being. Quotable rates for these wools are unchanged, and there is still strong belief that they will meet with a market later on at no lower figures than are now nominally current. Brokers who are in touch with Eastern manufacturers and dealers complain of dull trade, and assign as the principal reason for the lack of orders from Eastern centers the tightness of money on the Atlantic side. Most of the manufacturers are fairly stocked for the present and do not care to purchase ahead to any noteworthy extent, when such purchasing necessitates paying unwarranted rates to bankers or private capitalists for money accommodations.

SPRING.

Oregon Eastern, choice	12	@	14
Oregon Eastern, fair to good	10	@	12
Oregon Valley	15	@	17

FALL.

Humboldt and Mendocino	14	@	15
Middle Counties	8	@	10
Northern, free	9½	@	11¼
Northern defective	8	@	10
Southern Mountain	7½	@	8½
San Joaquin Plains	6½	@	7½
San Joaquin Lamb	8	@	9½

Hops.

Inactivity continues to reign in the hop market, at this time of all others when hops should be moving freely, especially on export account. That this is to be a season of light movement and low prices in the hop trade seems to be a well established fact. Parties who have been handling hops for the past twenty years have no recollection of the market ever being slower in October than it is at present. In every hop district of Europe, outside of England, the yield is reported good and in some sections phenomenally heavy and of fine quality. In England the crop started off well, but suffered damage later from unfavorable weather and is proving only fair. Estimates as to the yield in this country vary greatly, but there is no question about there being a large surplus for export, with export demand lacking.

Good to choice, 1899 crop	9	@11¼	

The following report of the hop market is given by a New York authority under late date:

Business this week has not shown any more activity. The principal reason for this is that brewers have made contracts which kept them out of the market, while dealers who accepted these contracts have, for reasons known to themselves, held off from buying to any extent. The regular dealers who generally at this time of year buy hops, find, for the above reason, the brewing trade very stack; and even when they do sell a few hops the demands on quality are very hard to satisfy on the present crop. The transactions that occur are fully covered by our quotations but he ause of the indifferent stock shown our outside figures seem extreme—they can he realized only for really choice lots. In none of the districts in the State has there hoen much buying reported, and prices rule nominally the same as last week, with the very hest growths held out of market awaiting on English demand. On the Pacific coast the conditions are about the same as in this State, though we hear of some recent purchases in Oregon at 9½c. Cables report the English markets lower on common goods, but fine hops are having some call and are steady at £5 to £6.

Hay and Straw.

As foreshadowed in previous review, the tendency of values in the hay market has been to a wider range of values, choice to select stable hay inclining in sellers' favor, while common and defective qualities remain as low-priced as ever, with little prospect of there being any quotable improvement for hay of this latter description. Hay exposed to the recent rain suffered serious damage, especially where it was baled. Much of this damaged hay would have been previously marketed had it not been for the poor transportation facilities that producers have lately had to contend with, to say nothing of the discouraging state of the hay trade for months past.

Wheat	6 50	@	9 50
Wheat and Oat	6 00	@	8 50
Oat	6 00	@	8 00
Barley	6 00	@	7 00
Alfalfa	5 00	@	7 00
Timothy	——	@	——
Compressed	7 00	@	9 00
Straw, ₱ bale	25	@	40

Millstuffs.

Much the same firm tone has prevailed in the market for Bran and Middlings as previously noted, the output of mills continuing light and the demand fair. Easier prices are looked for, however, in the near future. Values for Rolled Barley and Milled Corn ruled steady.

Bran, ₱ ton	17 50	@	18 50
Middlings	18 50	@	21 00
Shorts, Oregon	17 50	@	19 00
Barley, Rolled	18 00	@	18 50
Cornmeal	23 50	@	24 00
Cracked Corn	24 50	@	25 00

Seeds.

Business in Mustard Seed is not active at present, nor is there much stock to operate upon. Yellow Mustard is in light supply, and most of that remaining is held off the market. The Trieste variety is now receiving some attention, with values quotably unchanged. Values for Flaxseed remain as before, with few sellers at current figures. Alfalfa is now receiving attention.

	Per ctl.		
Mustard, Trieste	3 15	@	3 25
Mustard, Yellow	3 75	@	4 00
Flax	2 00	@	2 25
	Per lb.		
Canary	3½	@	4
Rape	2	@	3
Hemp	4	@	4½
Timothy	4	@	4½
Alfalfa, Utah	7½	@	8

Bags and Bagging.

Not much movement at present and no changes to note in values. A leading broker in the Grain Bag trade places the total supply for the Pacific Coast the past season at 46,386,000 bags, of which 42,500,000 were required, leaving a carry-over stock of 3,886,000 bags. A year ago the carry-over stock was 10,150,000, and two years ago 2,450,000. California's needs for 1899 are stated to have been 26,000,000, San Quentin furnishing 7,300,000 and local manufacturers 7,500,000. According to same authority, Oregon and Washington absorbed this year 16,500,000, against 21,000,000 last year and 16,000,000 in 1897.

Calcutta Grain Bags	7	@	7½
San Francisco Grain bags, 22x36, spot	7	@	7¼
State Prison bags, per 100	——	@	——
Wool sacks, 4 lb	——	@	30
Wool sacks, 3½ lb	——	@	28
Gunnies	——	@	12½
Bean bags	4¾	@	5¼
Fruit sacks, cotton	6	@	6¾

Hides, Pelts and Tallow.

Market is firm throughout and gives promise of so continuing for some time to come. Stocks of all kinds are light and offerings as a rule meet with prompt sale. Prices for Hides are now higher than ever before experienced in this center.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.		Culls.	
Heavy Steers, over 56 lbs	11	@11½	10	@10½
Medium Steers, 48 to 56 lbs	10	@10¼	9	@ 9½
Light Steers, under 48 lbs	10	@—	9	@—
Heavy Cow Hides, over 50 lbs	9½	@10	9	@—
Light Cow Hides, under 50 lbs	9¾	@10	9	@—
Wet Salted Kip	9½	@10	9	@—

Wet Salted Veal	9½@10	9	@—
Wet Salted Calf	10 @10½	9½@10	
Dry Hides	17 @—	13	@—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13	@—
Dry Calf, under 4 lbs	17 @—	14	@—
Salted Horse Hides, large	2 50	@	—
Salted Horse Hides, medium	2 00	@	—
Salted Horse Hides, small	1 00	@	—
Dry Horse Hides, large	2 00	@	—
Dry Horse Hides, small	75	@1	00
Dry Colts' Hides	50	@	75
Pelts, long wool, per skin	90	@1	25
Pelts, medium, per skin	60	@	75
Pelts, short wool, per skin	30	@	50
Pelts, shearling, per skin	20	@	35
Deer Skins, best summer	27½	@	30
Deer Skins, good medium	20	@	22½
Deer Skins, thin winter	—	@	10
Elk Hides	10	@	12
Tallow, good quality	4½	@	5
Tallow, No. 2	4	@	4½
Goat Skins, perfect	30	@	37½
Goat Skins, damaged	10	@	20
Kid Skins	5	@	10

Honey.

Values are being sustained at previously quoted range. There are no heavy stocks, either here or in the interior. Demand at full current rates, however, is not brisk, especially for ordinary Comb honey, which is wanted only on local account. Offerings of Extracted include very little which can be termed water-white.

Extracted, White Liquid	7¼	@	7¾
Extracted, Light Amber	6½	@	7
Extracted, Amber	5	@	5½
White Comb, 1-lb frames	11½	@	12½
Amber Comb	8	@	10

Beeswax.

Supplies remain of light volume. Market is not favorable to buyers. Quotable values are unchanged.

Good to choice, light, ₱ lb	26	@	27
Dark	24	@	25

Live Stock and Meats.

Beef was in fair demand at steady prices. Mutton went at generally unchanged rates, but market was not particularly firm. Tendency on Veal was to easier figures, but prices for Lamb were well sustained. Hogs have been arriving more freely since last week's rain, causing prices to incline downward.

Beef, 1st quality, dressed, net ₱ lb	7	@	7½
Beef, 2d quality	6½	@	7
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wethers	6½	@	7
Hogs, hard grain fed, medium	5⅝	@	5½
Hogs, small, fat	5⅜	@	5½
Hogs, large hard	5⅛	@	5¼
Hogs, feeders	5	@	5¼
Hogs, country dressed	5¾	@	6
Veal, small, ₱ lb	7	@	9
Veal, large, ₱ lb	8	@	—
Lamb, spring, ₱ lb	8	@	8½

Poultry.

Continued heavy arrivals of Eastern poultry have caused the market for most kinds of the home product to rule weak, especially for young chickens, a large proportion of the recent importations being of this sort. Extra large and fat chickens brought tolerably good prices, as did also large Young Ducks, fat Young Turkeys and Geese in first-class condition.

Turkeys, young, ₱ lb	15	@	17
Turkeys, live hens, ₱ lb	13	@	15
Turkeys, live gobblers	13	@	15
Hens, Cal., ₱ doz	4 00	@5	00
Roosters, old	4 00	@4	50
Roosters, young, (full-grown)	3 25	@3	75
Fryers	3 00	@3	25
Broilers, large	3 25	@3	50
Broilers, small	3 00	@3	25
Ducks, ₱ doz	4 00	@6	00
Geese, ₱ pair	1 75	@2	00
Goslings, ₱ pair	1 75	@2	00
Pigeons, Old, ₱ doz	1 25	@1	50
Pigeons, Young	1 50	@1	75

Butter.

Owing to the irregularity and uncertainty of arrivals of steamers the past week from the Humhoidt section, values for best qualities of fresh were tolerably well sustained. The output of near-by dairies is, however, on the increase, and with prospects good for plenty of green feed in the near future, easier prices are looked for at an early date. Pickled Roll is scarce and high. Tub butter is in good supply.

Creamery extras, ₱ lb	30	@	—
Creamery firsts	29	@	—
Creamery seconds	28	@	—
Dairy select	27	@	28
Dairy seconds	20	@	23
Dairy, soft and weedy	—	@	—
Mixed store	14	@	16
Creamery in tubs	18	@	22
Pickled Roll	23	@	25
Firkin, Cal., choice to select	19	@	22½
Firkin, common to fair	16	@	18

Cheese.

Stocks of all descriptions are of rather light volume, and are particularly so of choice to select mild-flavored new. Business in latter sort is necessarily of a light order, and in a small way higher figures are realized than are quotable. Market throughout presents a firm tone, and there is nothing to warrant anticipating lower prices very soon.

California fancy flat, new	12	@	—
California, good to choice	10½	@	11½
California, fair to good	10	@	11
California Cheddar	—	@	—
California, "Young Americas"	10½	@	12½

Eggs.

While receipts of choice to select fresh from henneries in this State continue of light volume, these eggs meet with very slow demand at the stiff figures recently established. Many retailers and jobbers have been interested in keeping the prices up, not that they want to purchase at the figures asked, but to enable them to dispose of their holdings of Eastern and local cold storage eggs to good advantage. Stocks of domestic fresh have to be very light to make this scheme work. Increased receipts of fresh and an easier market are expected in a few weeks. Some of the choicest cold storage eggs are now being sold for fresh.

California, select, large white and fresh	40	@	—
California, select, irregular color & size	33	@	38
California, good to choice store	25	@	30
Eastern, as to section and grading	20	@	27
Eastern, cold storage	—	@	—

Vegetables.

Aside from Onions, Tomatoes and Squash, there is very little now offering in the line of vegetables quoted herewith. Prices were without radical change, the market in the main being very quiet, although for choice qualities the tendency was, as a rule, to more firmness.

Beans, String, ₱ lb	2½	@	3½
Beans, Lima, ₱ lb	3	@	4
Cabbage, choice garden, ₱ 100	50	@	60
Cauliflower, ₱ doz	50	@	—
Cucumbers, Alameda, ₱ large box	40	@	75
Egg Plant, ₱ box	35	@	60
Garlic, new, ₱ lb	2	@	3
Mushrooms, Buttons, ₱ lb	—	@	—
Mushrooms, wild, ₱ box	—	@	—
Okra, Green, ₱ box	75	@	1 00
Onions, Yellow, good to choice, cental	50	@	65
Peas, Sweet, Garden, ₱ lb	3½	@	4
Peppers, Green Chile, ₱ box	40	@	65
Peppers, Bell, ₱ large box	65	@	90
Squash, Marrowfat, ₱ ton	10 00	@15	00
Squash, Summer, ₱ box	50	@	75
Tomatoes, River, ₱ box	20	@	30
Tomatoes, Bay, ₱ box	25	@	40

Potatoes.

There were no heavy arrivals of potatoes from any quarter, and prices averaged higher than preceding week, the improvement being greater than quotations would indicate, as recent sales at full current figures have been more the rule than previously. Oregon potatoes arriving are mainly under choice. Better qualities are expected in a few weeks. Sweets were in more than ample supply, and market was easier.

Burbanks, River, ₱ cental	65	@	80
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	—	@	—
River Reds	60	@	75
Early Rose	45	@	60
Garnet Chile	60	@	75
Burbanks, Salinas, ₱ cental	95	@1	15
Sweet River, ₱ cental	75	@1	00
Sweet Merced	1 00	@1	25

The Fruit Market.

Fresh Fruits.

Further reduction has been made in the display of fresh fruits, both in quantity and variety, since last week's rain. Mid-Winter features will hardly be so marked a month or two from now as at present, for later on the plainness will be greatly relieved by the appearance of citrus fruit in liberal quantity. Apples are now in greater supply than any other one kind of fruit, and are of necessity receiving the most attention. Stocks of Apples are not heavy for this time of year, and the proportion of choice to select qualities is small. For the latter sort the market is firm, while common to fair are moving slowly at much the same easy rates as have been current since the season first opened. Fancy in 4 tiers, free from worms or other serious blemish, were quotable at $1.25 wholesale, and in a small jobbing way brought $1.50 per box of regulation size, understood to hold 50 lbs. Peaches are practically out, although an occasional box is still to be seen. Pears are in only moderate receipt, but the call is not great for this fruit at present, and the market cannot be termed especially firm, although for select Winter Nells or equally desirable stock, $1.00 @ 1.25 per box is the quotable range, and where small transfers are made slightly higher figures are obtainable. In the line of Plums, there are virtually none aside from a few Coe's Late Reds, and these are not much sought after, not many consumers caring for this fruit at this late date. In the Berry line, aside from Cranberries, the only kinds offered in noteworthy fashion were Strawberries and Raspberries. These were in reduced supply and commanded advanced figures. Oregon Cranberries are held at $2 per bushel box, and Eastern range from $6 50@8 00 per barrel.

Apples, fancy, ₱ 50-lb. box	—	@	—
Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ₱ 50-lb. box	75	@	90
Apples, Green, common to fair, ₱ 50-lb. box	25	@	50
Blackberries, ₱ chest	—	@	—
Cantaloupes, ₱ crate	—	@	—
Cantaloupes, Nutmeg, ₱ crate	—	@	—
Figs, Black, 1-tier box	—	@	—
Figs, White, ₱ box	—	@	—
Grapes, Black, ₱ crate	30	@	65
Grapes, Fontainebleau, ₱ crate	—	@	—
Grapes, Muscat, ₱ crate	30	@	65
Grapes, Tokay, ₱ box, 40@65c; ₱ crate	50	@	75
Grapes, Seedless, ₱ box, —@—; ₱ crate	—	@	—
Grapes, Cornichon, ₱ crate	50	@	75
Grapes, Isabella, @ crate	75	@	1 00
Grapes, Zinfandel, ₱ ton	24 00	@27	00
Grapes, Mission, ₱ ton	20 00	@24	00
Grapes, White, ₱ ton	18 00	@22	00
Peaches, fancy wrapped, ₱ box	—	@	—
Peaches, ₱ box	—	@	—
Pears, late varieties, ₱ box	50	@	1 25
Plums, ₱ box	50	@	75
Pomegranates, ₱ box	50	@	75
Quinces, ₱ box	50	@	75
Raspberries, ₱ chest	6 00	@	7 00
Strawberries, Large, ₱ chest	5 00	@	6 00
Whortleberries, ₱ lb	—	@	—

Dried Fruits.

While the market for cured and evaporated fruits is not showing so much activity as for a week or two preceding, there is no abatement of strength. On the other hand, evaporated Apples, which have been lately receiving the bulk of attention, are higher, quotations being marked up half a cent, and buyers find difficulty in obtaining large quantities at the advance noted, not that there is an absence of supplies in this State, but there are numerous holders who are not making any efforts to realize at present. The light stocks North and East, and the fairly liberal purchases being made on Government account, in addition to other requirements of large volume in the aggregate, cause the market to present a strong tone. Peaches and Prunes are also being taken in considerable quantity on Government orders. Peaches incline in sellers' favor, particularly choice to select qualities. Peeled and high grade Unpeeled are scarce and wanted. Business in Prunes is of moderate volume, with the most urgent inquiry for small sizes, these being the most difficult to obtain and being in request for that particularly large class of custom with which price is more of an object than size or quality. Pears are in very limited stock and are firmly held. Plums appear to be practically out of first hands and are obtainable from jobbers only in small quantities. Figs are far from being plentiful and no trouble is experienced in securing custom, although common qualities will not command fancy figures. For pressed figs, particularly select White, the market is decidedly strong.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12½
Apricots, Royal, fancy	12½	@	13½
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½	@	8
Apples, 50-lb. boxes, rings, pressed, good to choice	7	@	7½
Figs, White, fancy pressed	8½	@	9½
Peaches, unpeeled, good to choice	5½	@	6½
Peaches, unpeeled, fancy	7½	@	8½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½	@	8½
Plums, Black, pitted	6	@	6½
Plums, White and Red, pitted	8	@	8½
Prunes, in sacks, 40—50's	4½	@	4¾
50—60's	4	@	4¼
60—70's	3¾	@	4
70—80's	3¼	@	3½
80—90's	2¾	@	3
90—100's	2½	@	—
110—130's	2	@	—
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	3	@	—
4 sizes San Joaquin and Northern	2½	@	2¾
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4½	@	5½
Apples, quartered	4½	@	5½
Figs, Black	6	@	6½
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Recent advices by mail from New York City furnish the following review of dried fruit market:

Receipts of evaporated apples have been larger this week, but with an active jobbing demand and strong advices from primary sections, market has ruled firm and higher; large contracts for future delivery have also helped strengthen the position. Fancy are very scarce and actual value nominal but choice are in fair supply and jobbing from 7¾@8c, rarely 8¼c for high grade, and strictly prime are salable at 7½c; considerable business reported at that and some fruit called prime but which would not pass inspection is selling at 7¼@7¾c; stock below this has no settled value and ranges all the way from 5½@6c for very poor up to 7c for pretty good fruit. Sun-dried apples firm and fancy sliced have a possible value of c, though 4½@5¼c covers most sales of sliced and quarters range from 4c for poor Tenn. up to 5c for average best. Chops firm and a shade higher. Cores and skins have met a good demand at steady prices. Small fruits generally firm and higher under small offering. California fruit sells well but quotations are full high on peaches.

Apricots, Cal. Moorpark, 1899, per lb	14	@	17
Apricots, Cal. Royal, 1899, per lb	12½	@	13½
Peaches, Cal., 1899, unpeeled, in boxs, lb.	8	@	10
Peaches, Cal., 1899, unpeeled, in bags, lb.	8½	@	9½
Prunes, Cal., 1898, per lb	3	@	8

Raisins.

This fruit is moving freely into consuming channels and market is firm at the ruling rates. Indications are favorable for a clean-up of stocks before the close of the Winter. Layer Raisins are now scarce and Clusters are practically unobtainable, growers having put up very few of these this season.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ₱ box	$3 00	@	—
Do do 5-crown, ₱ box	2 50	@	—
Do do 4-crown, ₱ box	2 00	@	—
Do do 3 crown, ₱ box	1 60	@	—
Do do 2-crown, ₱ box	1 50	@	—
Valencia layers, ₱ 20-lb box	80	@1	00
(Usual advance for fractions.)			
Loose Muscatel, 4-crown, ₱ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, ungraded	—	@	—
(Above prices for loose raisins are for 50-lb boxes.)			
Dried Grapes	—	@	—

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ₱ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ₱ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Small lots of old Oranges are still on market, but are meeting with very little call. The asking range is $2@3 per box for fair to choice. New crop Oranges are expected on market in time for the Thanksgiving trade. Early arrivals in palatable condition will undoubtedly bring good prices. Lemon market has been quiet and has lacked firmness, the weather being unfavorable for consumers taking hold freely. Limes were in increased supply and lower.

Lemons—Cal., select, ₱ box	3 50	@	4 00
Cal., good to choice	2 50	@	3 00
Cal., common to good	2 00	@	2 50
Limes—Mexican, ₱ box	4 50	@	6 00
Cal., small box	—	@	—

Nuts.

Almond market continues firm, with good demand and offerings of quite moderate volume. Shelled are quotable up to 26c. New Walnuts are now on market, but not in large quantity. They are meeting with good custom, and soft-shell are commanding 10½c in carload lots at southern producing points. Peanut market is showing firmness, for both domestic and imported, there being no large stocks of any kind.

California Almonds, shelled	25	@	26
California Almonds, paper shell, ₱ lb	12	@	14
California Almonds, soft shell	10	@	12
California Almonds, hard shell	6	@	7
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	10	@	10½
Walnuts White, Cal., standard	8½	@	9
Chestnuts, Cal. Italian	12½	@	15
Peanuts, Cal., fair to prime	5	@	6
Peanuts, Eastern hand-picked	6	@	7½
Pine Nuts	5	@	8

Wine.

The market is reported to be in generally unchanged condition, with a fair movement outward from second hands, both by sea and rail. The vintage of 1898 is now practically out of first hands. It is generally conceded that this year's output will be light, although some contend that the shortage will not be as great as many estimate, as new vineyards coming into bearing will partly offset the decrease in old vineyards. Whatever may be the output of new vineyards, the high price of wine grapes this season is proof positive of the yield being light. Quotable values remain nominally 15@20c per gallon for claret, as to quality, San Francisco delivery. This does not include 1899 vintage, prices for the latter having not yet been fixed. Shipments by sea from this port in September were 513,000 gallons and 240 cases, valued at $153,200. For September, 1898, the shipments by sea were 400,000 gallons and 525 cases, valued at $141,200.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	106,912	1,677,055	1,449,466
Wheat, ctls	75,994	1,165,984	1,005,446
Barley, ctls	118,933	2,462,808	542,708
Oats, ctls	28,560	300,969	271,910
Corn ctls	11,400	41 715	63,825
Rye, ctls	3,130	60,937	10,415
Beans, sks	33,381	123,731	127,110
Potatoes, sks	28,719	360,042	351,501
Onions, sks	3,180	79,346	76,383
Hay, tons	2,661	67,725	64,873
Wool, bales	2,672	24,501	21,806
Hops, bales	564	4,664	5,699

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	66,824	968,527	957,148
Wheat, ctls	74,173	900,287	511,393
Barley, ctls	52,456	1,828,238	114,874
Oats, ctls	1,674	15,666	8,710
Corn, ctls	183	5,222	5,348
Beans, sks	1,090	7,849	51,420
Hay, bales	2,158	34,462	21,128
Wool, lbs	99,733	615,260	709,774
Hops, lbs	17,186	347,541	521,035
Honey, cases	282	2,419	3,039
Potatoes, pkgs	950	16,268	17,819

California Dried Fruit at New York.

NEW YORK, Oct. 25.—California dried fruits; Market is ruling steady. Evaporated apples, common, 6@7c; prime wire tray, 7¾@8c; choice, 8¼@8½c; fancy, 8½@9c.

Prunes, 3½@8½c.

Apricots, Royal, 13@15c; Moorpark, 15@19c.

Peaches unpeeled, 7½@10c; peeled, 20@22c.

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FRUIT PRESERVATION.

The Citron of Commerce.

The citron looks like an immense lemon. It is rather more tender than the lemon, but as a rule may be expected to do well wherever the lemon will grow. Several of our consuls have reported upon the methods of preparing it, as follows:

In Rome.—The greater part of the imports of citron comes from France, and is nearly all from the Island of Corsica. Citron is chiefly prepared for the market at Leghorn, which is the most important citron port on the Mediterranean. The fruit is first put into a salt pickle, in which it is allowed to lie for three months. This pickling in the case of the Corsican fruit is done to a limited extent by the Corsican citron grower, but as a rule it is done after the Corsican fruit reaches Leghorn. The next process consists in dividing the fruit into halves and quarters and packing them into sugar syrup. The syrup when first used is weak, but its strength is gradually increased by additions. Four weeks is the ordinary period during which the fruit remains packed in sugar, after which it is ready for the market.

In Leghorn.—The fruit resembles a huge lemon, and is often so large and heavy that it must be supported on the tree. They are shipped to the factories for candying, sometimes in sacks, but usually in large hogsheads filled with brine. On being taken out of these hogsheads or sacks they are placed in tubs containing fresh brine and left for about a month. The brine is then renewed and the fruit may remain in it until required for use, even for a period of four or five months.

When the citrons are to be candied they are taken out of these tubs and boiled in fresh water until sufficiently soft, which is ascertained by testing them with a fork. This usually takes about one and one-quarter hours, and they are then cut into pieces, the seeds carefully removed, and they are immersed in cold water and left for twenty-four hours and become a green color. After this they are put in large earthen jars with hot syrup, which should entirely cover them, and remain there about three weeks. During this time the proportion of sugar is gradually increased. They are then put in boilers, with crystallized sugar dissolved in a little water, and cooked; then allowed to cool for twenty-four hours and boiled again until they can absorb no more sugar, and then taken out of the boilers and placed on a wire netting to dry. They are now ready for packing and are placed in small wooden boxes containing about twenty-five pounds each. The proportion of sugar used in the process of candying is 80%—that is, eighty pounds of sugar to a hundred pounds of citron.

In Messina.—The citrons now exported from Messina are brought from Reggio, in Calabria. They are shipped in brine and are prepared as follows: The citrons are cut in halves, thrown into casks and salted—100 pounds of salt to the cask. The casks are then filled up with sea water and turned on their sides. The citrons are left to soak from fifteen to twenty days. The casks are then opened and the citrons weighed; 770 pounds of citron are allowed to the cask; sea water and a little salt are added, and the cask is ready for exportation. A small auger-hole in the bung permits the gas produced by fermentation to escape.

In Naples.—The fruit is not candied for exportation in this neighborhood, but sent to Leghorn or Genoa, to large factories for this industry.

The information received on the subject of preserving the fruit is as follows: The citron is cut in two or four pieces; it is then placed on the fire and boiled until the inside can be easily taken out with a spoon, then soaked in water for four or five days, and the water changed twice a day until the citron has lost its bitter taste. To every kilogram of fruit one kilogram of sugar and a quart of water is added, and placed over a slow fire and left standing for two days. Then 100 grams of sugar to every kilogram of fruit is added, and the boiling process repeated, left again for two days, and then again repeated at intervals until the syrup is thick. The fruit is then dried in an oven or before the fire, and can be exported in wooden boxes.

According to another authority the fresh citron is divided, the pulp taken out, and the rinds are then steeped in brine for several weeks. They are then boiled in syrup until the rinds are quite cooked; they are then dried and boxed as above described.

Others again, after taking the rind out of the brine, boil it in water for two days, changing the water two or three times per day and beginning each time with cold water; then one kilogram of sugar to one-half kilogram of water is taken; put into the quantity of syrup thus made one kilogram of the rind as above prepared. Each day, for six or seven days, bring the fruit now in the syrup to a heat in which you can just bear your hand, adding fifty grams of sugar each time.

The Automobile.

Frequent illustrated references have been made to the freight and passenger carriages built in California and elsewhere, which, under the general name of "automobiles," are attracting considerable deserved attention. Some of the best mechanical intelligence is now being directed to the improvement and evolution of those "horseless carriages." In the East their manufacture is an increasing industry, and they are coming into common use. The motive powers are steam, gasoline, compressed air and electricity, the second named being of most general appliance. In its September issue, "The Automobile," a New York publication, devoted to the advancement of this particular industry, illustrates the present state of the art. The passenger vehicle here reproduced therefrom is a steam stanhope vehicle of neat and light appearance. The weight of this carriage is about 400 pounds. The speed can be regulated by driver from one to thirty miles an hour. The mechanical equipment is very simple, and it is claimed that any one can operate it. Water and fuel can be carried for a long run, or obtained in any town or village. The vehicle can be run forward or backward at the will of the driver. The carriage is guided by a lever, which turns the forward wheels. It is fitted with pneumatic tires, ball-bearing axles, springs, etc.



FIG. 1.—STEAM STANHOPE.

Steam and electricity are largely used in passenger automobiles. For freight service gasoline is in more general requisition. The latest and best application of a gasoline motor on the Pacific coast was noted and illustrated in the PACIFIC RURAL PRESS of March 4, 1899.

Experiment still goes on, for, costly though such experiment be, it is manifest that with good roads will come great demand for machines that will carry freight and passengers over moderate grades regularly at less average cost than horse power.

Herewith is presented what is believed to be the latest development in this matter of experimenting. Instead of confining the propulsion to one form of energy, the design of the power equipment of the Fisher automobile truck involves a three-motor idea, a gasoline engine with a connected dynamo for generating an electric current, a storage battery and an electric motor for driving the truck. This amount of machinery results in great weight to the truck, which in this case amounts to more than four tons, of which amount the storage battery weighs about 1000 pounds. Certain advantages in this combination are claimed by those who have studied the problem.

It is independent of a power station. The storage battery provides energy for driving the truck four or five miles, the truck having a reserve force, should the generating part become deranged. The gasoline engine, with its dynamo, is supposed to keep the batteries charged, thus having on hand their full reserve strength. The dynamo, acting as a motor, can also be used to give the engine an initial start, and, when running, it can maintain a uniform speed irrespective of the motion of the truck.

Among the manifest objections are large first cost, heavy weight and complexity of machinery, though the advantages of a variable speed, a backward as well as a forward motion and the certain control of the truck are considered as offsets to such objections.

The engravings only partially show the mechanism of the truck. The cooling pipes are noticeable under the footboard and at the sides. A large surface is thus provided in order that the water for cooling the cylinder may not reach the temperature of the boiling point. The designers have noted the liability of these tubes becoming damaged in this exposed position and will provide for a more protected place.

This truck has a wheelbase of 10 feet, and wheelgage of 66 inches. The front wheel diameter is 34 inches and rear wheel diameter 46 inches. The tires are 4x$\frac{1}{2}$-inch. The dynamo weighs about 600 pounds, the battery 1000 pounds, and other parts in proportion, giving a total weight of about 8500 pounds. It is purely an experimental truck, and it is expected that much may have to be changed. It is here cited and illustrated as showing what is being done experimentally to evolve a really economical autotruck.

In the arrangement of the apparatus, the engine shaft lies lengthwise of the wagon, with the engine cylinders vertical. The dynamo is placed at the front end, and is shown in Fig. 3. The truck is said to handle well, being run through narrow alleys and turned on sharp turns and backed with equal facility. The steering arrangement is considered satisfactory and will be retained.

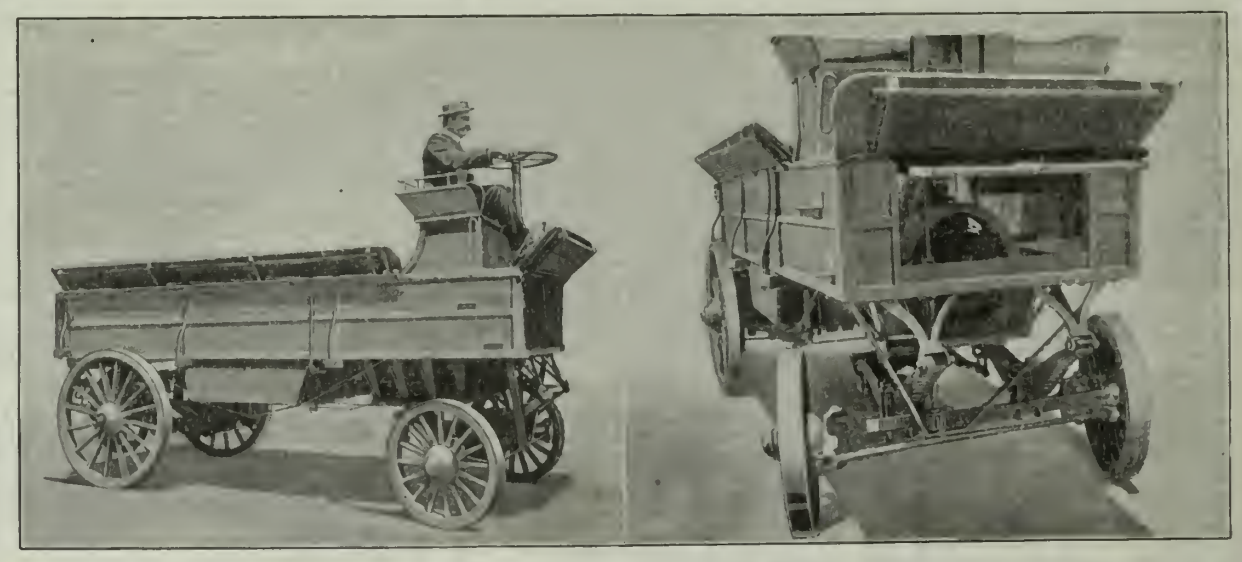


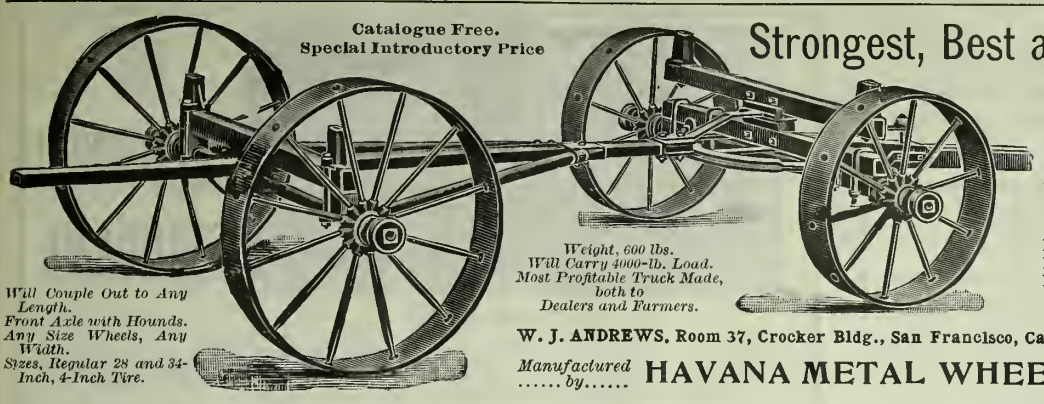
FIG. 2.—FISHER AUTOMOBILE TRUCK.

FIG. 3.—FISHER AUTOMOBILE TRUCK.

The makers say that the next truck built by them will be after a modified design of this truck. The engine is to be of a four-vertical-cylinder type, and about 12 H. P. It is to be located under the driver's seat, with the shaft placed across the body of truck. The wheels are to be made heavier, with heavier and broader tires. The speed will also be lowered, and will range from three to six miles per hour. It is hoped to reduce the total weight of truck relative to its carrying load. The weight of driving machinery requires greater strength in the truck itself, and, consequently, greater weight. It would seem that the whole problem lies in the driving equipment.

The truck in its present form is capable of carrying a load of 10,000 pounds over a good road at a speed of from four to eight miles per hour.

IT is reported from France that the champagne vintage, completed in ideal sunny weather, promises to be favorable in quality, but below the average in quantity. Experts say that 1899 champagnes will be remarkable for delicacy of flavor, but lacking in body. Burgundies are not so good as in 1898, but clarets are excellent. Official reports indicate that the total vintage of France, including Algeria and Tunis, will produce 1,200,000,000 gallons.



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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 10, 1899.

634,568.—INSULATOR—C. N. Beal, S. F.
634,680.—RUBBER HEEL—C. M. Berry, S. F.
634,844.—ANIMAL TRAP—C. C. Bowen, Los Angeles, Cal.
634,845.—ANIMAL TRAP—C. C. Bowen, Los Angeles, Cal.
634,846.—ANIMAL TRAP—C. C. Bowen, Los Angeles, Cal.
634,609.—STUMP BURNER—J. O. A. Bredemeyer, Seattle, Wash.
634,612.—PUMP FOR GASOLINE MACHINES—E. J. Crawford, Campbell, Cal.
634,446.—TYPE WRITER ATTACHMENT—F. W. Dobbel, S. F.
634,574.—PROPELLER—J. S. Grant, S. F.
634,728.—LOCOMOTIVE ASH PAN—T. W. Heintzelman, Sacramento, Cal.
634,464.—LAMP BRACKET—B. F. Kent, Eugene, Or.
634,529.—GAS ENGINE—A. Lee, New Whatcom, Wash.
634,737.—LAND ROLLER—J. W. Newman, Plainview, Or.
634,584.—MANGLE—W. O'Connor, Oakland, Cal.
634,628.—OFFICE INDICATOR—C. V. B. Reeder, San Jose, Cal.
634,544.—HAY PRESS—E. J. Shirley, El Modena, Cal.
634,594.—RATCHET DRILL—C. S. Stafford, S. F.
634,781.—BOOK HOLDER—P. A. Veilex, La Canada, Cal.
634,840.—PUMP—F. B. Warring, San Jose, Cal.
634,655.—NEEDLE—Carrie A. Whitney, Los Angeles, Cal.
634,598.—TRUNK BINDER—N. Whittlesey, Los Angeles, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

PUMP FOR GASOLINE GAS MACHINES.—E. J. Crawford, Campbell, Cal. No. 634,612. Dated Oct. 10, 1899. This invention relates to apparatus which is designed for the manufacture of gasoline or hydrocarbon gas, and has for its object the connection of a generator, an air pumping mechanism and means for automatically regulating said mechanism. It consists of a double walled tank and a double walled cylinder open at the bottom and closed at the top with the walls of the cylinder embracing the inner walls of the tank. There is an air inlet pipe within the cylinder having an upwardly opening valve which admits air as the cylinder rises and cuts off the flow of air as the cylinder descends. A hydraulic motor is vertically disposed within the double walled cylinder and has a stem and piston connection therewith. An air pipe leads from the interior of the double walled cylinder, a water supply pipe with branches leads to points above and below the piston, valves in the branch pipe and levers connected with the stems of the valves. The supplemental cylinder and plunger rod extends from the same having one of the valve levers connected therewith so that the valves are operated in unison.

RATCHET DRILL.—C. S. Stafford, assignor of one-half to J. H. Blakeway, all of San Francisco, Cal. This invention relates to improvements in ratchet drills. It consists essentially of a hollow head with a handle by which it may be turned, a stationary ring fitting within the head having a central sleeve through which the drill spindle and socket piece pass. Beveled pinions are journaled radially within the stationary ring and ratchets having beveled gears attached to them to engage the pinions upon opposite sides. One of said ratchets has a key or feather which engages a corresponding key-way in the drill spindle and pawls are pivoted upon the head or handle engaging the ratchets, stops are employed against which the opposite sides of the pawls contact to alternately prevent one ratchet from turning, while the other is allowed to move freely. In conjunction with this is a feed screw spindle and socket piece in which it is turnable, said socket having a ball-bearing disk and race-way as its head and corresponding race-way in the yoke and balls fitted in said race-way.

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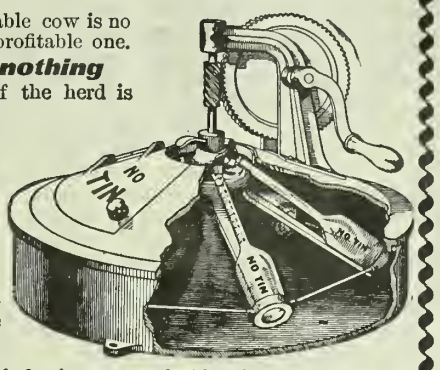
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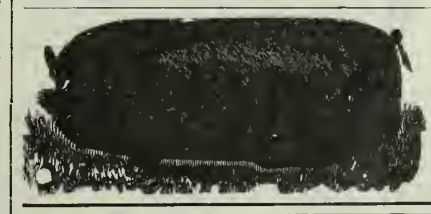
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Resolutions at the State Grange.

On the last day of State Grange meeting at Napa a number of resolutions were adopted, of which we give the drift:

Canal and Forests.—That the next Congress be urged to build the Nicaragua Canal as soon as practicable, through Government ownership; that Government take stringent measures to prevent timber cutting and pasturage of our forests with consequent fires, and provide storage for our flood waters.

Dried Fruit Association.—Whereas, Fruit growing is one of the important industries of the State of California, and the canners and packers are combined for the purpose of appropriating to themselves all the profits of this great industry, leaving to the producers a bare subsistance, now therefore be it resolved by California State Grange that the only alternative of the producers is to meet combination with combination, and be it resolved, that we therefore approve of the organization of a California Prune Association and recommend that it be made to embrace all dried fruit; and be it resolved, that we favor such an organization as will insure the establishment and maintenance of a minimum price for green fruits, which will leave to the producer a fair and reasonable return for his products; and be it further resolved, that a committee of five be appointed by this body to effect such organization and that the several subordinate Granges are hereby earnestly requested to assist in perfecting the same. Worthy Master-Elect G. W. Worthen, being in the chair, named the following committee: A. E. Burnham of Lambert, A. R. Galloway of Healdsburg, B. G. Hurlburt of San Jose, Thos. Jacobs of Visalia, A. D. Butler of Napa.

Tulare Grange.

TO THE EDITOR:—Tulare Grange met at its hall on Saturday, Worthy Master Bro. Thomas Jacob presiding.

The Worthy Master gave an account of the proceedings of the State Grange at Napa and of the election of officers for the next two years. Mention was made of the good attendance at Napa and of the interest in all the work of the State Grange taken by members in attendance. The officers-elect of the State Grange were spoken of as men and women of ability, capable in their several offices and zealous as Patrons of Husbandry. Particular mention was made of Bro. Cyrus Jones for his long service, zeal and fidelity in the State Executive Committee, from which he resigned during the meeting.

The prospects for increased membership of the order during the next two years seem now to be very good.

The Secretary, Sister Bertha Morris, read letters from all the members of Congress from California acknowledging receipt of resolutions from Tulare Grange advocating a Congressional appropriation for a systematic examination and survey of the forests of California by the Forestry Department of the Department of Agriculture and pledging themselves to advocate the same. Bro. E. C. Shoemaker also read a letter from Hon. Thos. F. Butler, M. C. from Pennsylvania, to whom Bro. Shoemaker had sent a copy of the resolutions, pledging himself to support the appropriation.

The Secretary also read from Circular No. 22, Division of Forestry, "An Offer of Practical Assistance to Tree Planters," sent to the Secretary to be read in the Grange. The circular recites: "Briefly stated, the division proposes to give such aid to tree planters that wood lots, shelter belts, wind breaks and all other economic plantations of forest trees may be so well established and cared for as to attain the greatest usefulness and most permanent value to their owners." The circular further recites what it teaches; the value of forests to farmers; why farmers should plant; an incidental value of forest plantation; cost of planting and cultivating forest trees; when and how long plantations pay; planting in non-irrigated regions; planting on worn out farms; planting in irrigated regions; forms of agreement between the farmer and the Department, and suggestions to applicants. Where the area to be planted is less than five acres, no charges are made; on larger areas, necessary expenses for traveling and sustenance only will be charged. A copy of the circular will be sent, on application to Hon. James Wilson, Secretary of Agriculture.

The rest of the session was taken up in an interesting discussion of the subjects to which the communications referred. J. T.

San Jose Grange.

At the regular weekly meeting of San Jose Grange a committee composed of C. W. Childs, B. G. Hurlbert and E. T. Pettit was appointed to cooperate with committees from the Board of Trade and the Farmers' Club, to bring before the Board of Supervisors the question of selecting delegates to represent this county at the convention to be held in San Francisco on the 14th of November for the purpose of discussing the subject of forest preservation and the storage of the surplus waters by means of reservoirs. It was emphasized that it was important for this county to be represented and the committee was instructed to use its utmost endeavors to that end. The subject to be presented, as previously announced, was "What Can the Grange Do to Promote Good Government." It was introduced in two well written papers presented by Mrs. L R. Woodhams and Mrs. G. B. Worthen.

Free Mail Delivery.

TO THE EDITOR:—The following resolution was adopted by Santa Rosa Grange at the meeting held to-day:

WHEREAS, The rural mail delivery, so far as it has been established, is giving entire satisfaction and is of incalculable advantage to the farmer, educationally and financially; therefore, be it

Resolved, By Santa Rosa Grange No. 17, P. of H., that our Senators and Representatives in Congress be requested to use their best endeavors to secure from Congress an adequate appropriation for the extension and continuance of the same.

Resolved, That a copy of these resolutions be furnished to the local papers and the PACIFIC RURAL PRESS.

FANNIE L. GAMBLE, Sec. No. 17.
Santa Rosa, Oct. 14, 1899.

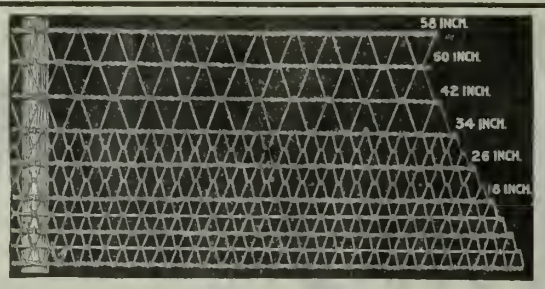
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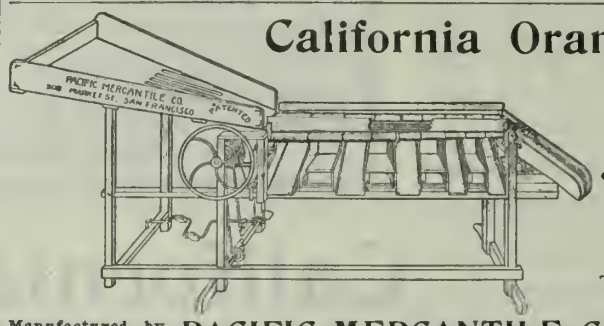
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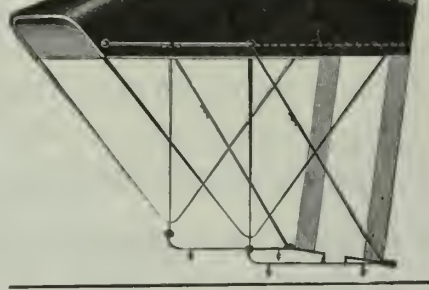


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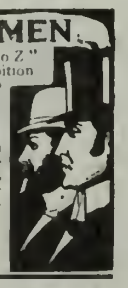
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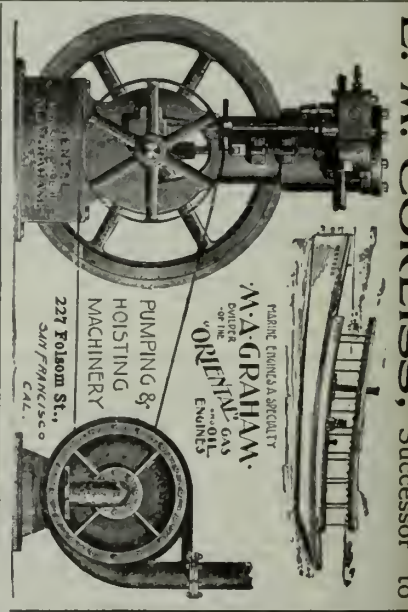
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American Steel and Wire Co.'s State Fair Exhibit.

(*Continued From Page 273.*)

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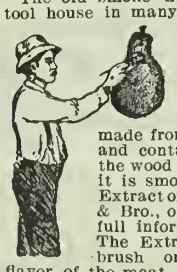
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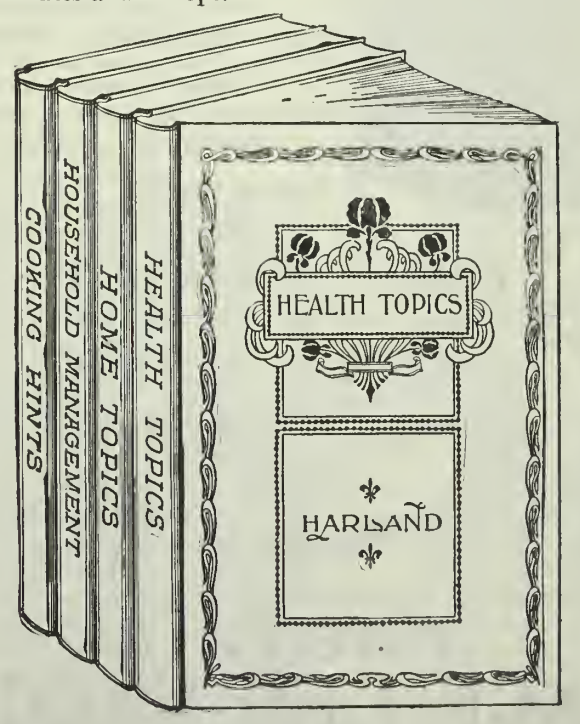
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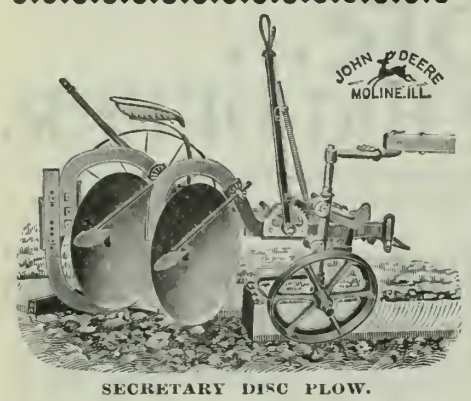
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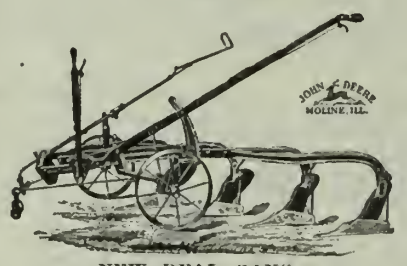
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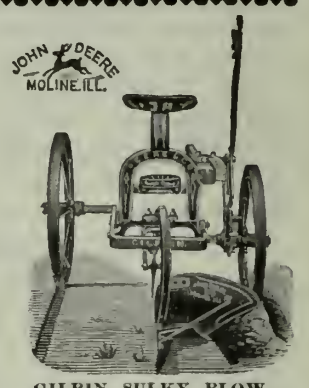
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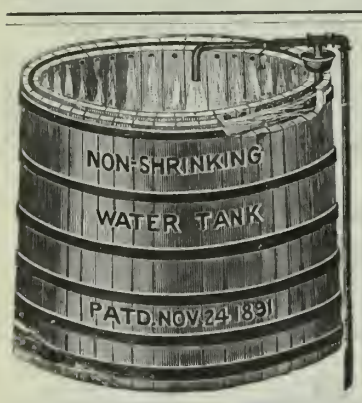


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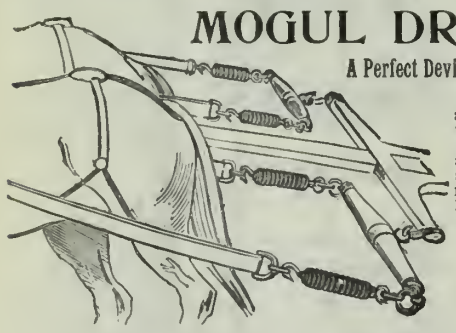
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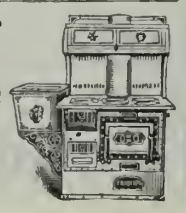
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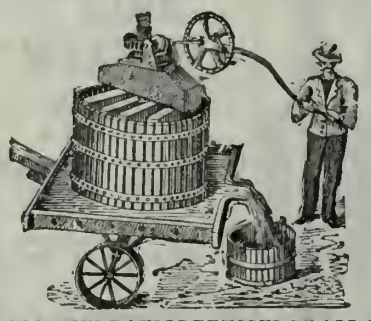
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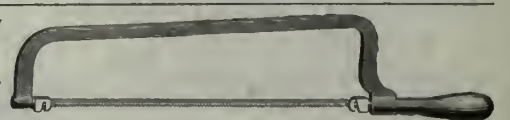
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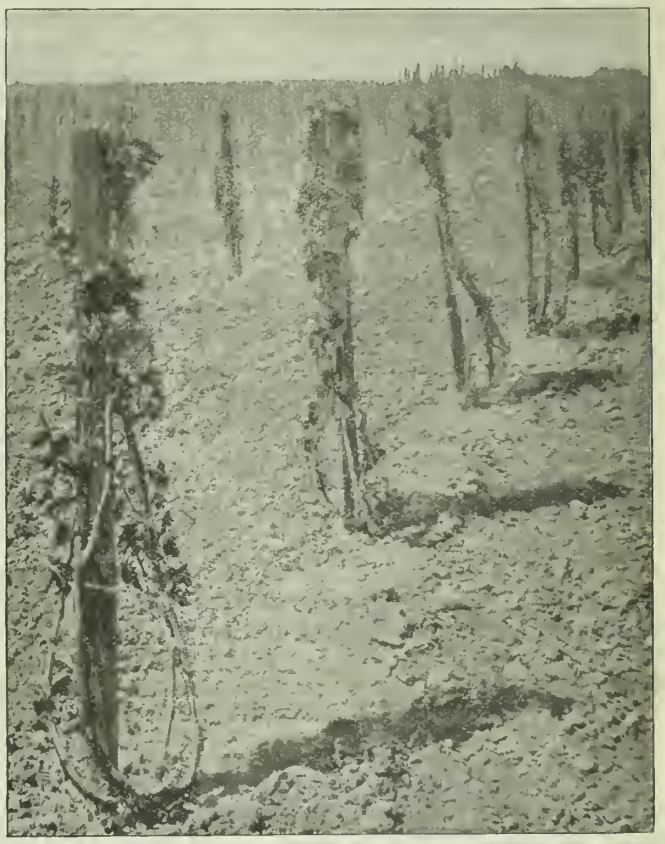
Vol. LVIII. No. 19. SAN FRANCISCO, SATURDAY, NOVEMBER 4, 1899. TWENTY-NINTH YEAR.
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Long Pruning of Thompson's Seedless.

The third edition of "California Fruits and How to Grow Them," which has just been published by the Pacific Rural Press, is especially new and replete on the subject of pruning. In this important branch of fruit culture, which California has done so much to bring upon a rational and systematic basis, Prof. Wickson has given the closest attention, and has found it desirable to present the matter in his new edition with greater attention to details and with new line engravings and half-tones. Not only is the general chapter on pruning fruit trees practically rewritten and newly illustrated, but the notes on the pruning of each fruit have also been very much improved. We deem it important to mention this matter just at this time because the pruning season for deciduous fruit is now on and will continue for several months, and it is therefore possible for those who desire light on this subject to secure the latest conclusions from California experience.

One of the branches of the subject we allude to now, because the increased acreage of Thompson's Seedless grape, and the excellent price at which the product is selling this year, seems to make it specially pertinent. Thompson's Seedless is one of several of our prominent grape varieties which require some form of long-pruning. To treat such a vine as the Muscat and many other grapes are treated, is to forfeit the bearing. At first the method employed, and which is still largely used, is training to a high stake, as shown in the smaller engraving, which is made from one of Nutting's photographs taken in Fresno. It shows how several canes are drawn up to a 5 or 6-foot stake and strongly tied. The photograph was taken just as the young growth was starting in the spring. This method has yielded grand results, as we may show at another time by the use of a plate showing vines thus treated with their crop of fruit.

The proper contrast to the high-stake system is the trellis system, which is now gaining ground rapidly with growers of Thompson's Seedless. It is usually a two-wire trellis, and the engraving shows clearly the simplicity of its construction. The stakes are 3 or 3½ feet high, and the top wire is stapled on the top of the stakes, the lower on the side. The trellis gives a better chance than the stake to distribute the growth of such a heavy grower and bearer as Thompson's Seedless. The grower has been naturally loth to give up his advantage in being able to use his cultivator both ways in the vineyard, but he finds this loss more than counterbalanced by the benefits of trellising. It is quite likely that from this rude trellising of Thompson's Seedless we shall proceed with better trellising not only of this vine but of the many others which bear better with long canes. It is of course a question whether the vines which are now cut back each year almost to the stump will not be more healthy and productive if allowed to grow from longer canes. Many experiments have shown that they really are, but the added expense of the long-pruning systems has led to the short growing of all varieties which will tolerate that treatment. With our richer soils and greater vine growth it would not be strange if greater freedom of the vine were desirable, and even necessary, than in the poorer soils and less thrifty vines of those parts of Europe whose practice we have copied. But this is a question which the future will decide, and meantime all comparative trials of the two contrasted systems are of interest and their results should be carefully noted.



THOMPSON'S SEEDLESS GRAPE TRAINED TO A HIGH STAKE.



TRELLISING OF THOMPSON'S SEEDLESS AS SEEN IN A FRESNO VINEYARD.

The Pacific coast Hereford interest figured very creditably at the great Hereford exhibition and sale which occurred at Kansas City last week, according to announcement in our columns. The leading coast breeder, John Sparks of Reno, Nev., figured in the two most striking events in the sale, as he was both the highest buyer and next to the highest seller. Mr. Sparks paid $2500 for the heifer Armour Rose, sire Beau Brummel, dam Armour Maid, bred and owned by K. B. Armour of Kansas City. This is said to be the highest price ever paid for a Hereford heifer. The bidding was spirited and was started at $500 by George Lee of Aurora, Ill., who stopped at $2125. Marshal Field of Chicago, who was an active bidder, dropped out when he had bid $2300, Sparks raising it $200. Outside of the purchase of Armour Rose the best sale was Wilton Alamo VI, sold by John Sparks of Reno, Nev., to T. E. B. Southam of Chillicothe, Mo., for $975. The sale as a whole was very spirited and values large, and it is creditable to the Pacific coast to be so largely in the Hereford interest. As Mr. Sparks is buying the best blood he is apparently in it to stay.

Tea culture was one of the early ambitions of California, and is still held in mind by some people. The plant is quite hardy in this State, but our observation is that the dry air does not foster free growth and large foliage. Still it is an interesting subject, and what is being done in South Carolina should be watched. The Secretary of Agriculture at Washington has just published a detailed pamphlet on the subject.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, November 4, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Alternating cloud and sunshine, yielding delightful heat and moisture in abundance, characterize the passing days and give wide assurance of the generous gifts of the crop year which is now opening. Growth is starting everywhere and in most parts proceeding rapidly, soothing regret for the loss of dry feed in the abundance of fresh pasturage. The season's crops are so far harvested that the frequent rains cause no regrets and the prolonged raining keeps the plowman always with land in good condition ahead of him. The soil is so deeply dry that continued showers are necessary to keep the plows going, and every new acre broken up opens a new reservoir in the subsoil for the reception of the water. We do not remember an autumn of better character for feed growth and field work, and the people are consequently busy and hopeful to a degree not reached in recent years. We are not surprised that the city trade shows the country's activity. The farmers are good buyers now and whoever has what they need should let it be known without delay. We heard in the country last week that land buyers are appearing in greater force than usual and around one interior city, in the midst of a fine farming region, we were told, more land had been sold in the last three weeks than in the preceding three years. Evidently activity prevails in lines which have long been quiet.

Wheat is still low; freights are rather high and available ships scarce, but tonnage is likely to increase from this on. Other cereals are in fair shape. Hay is improving for choice, but poor hay is weak and low. There is, unfortunately, too much wet hay —more than necessary if the growers had taken precautions easily to be secured. Bran and middlings are declining. Meats are unchanged and hogs arriving in about the right quantity to remain steady. There is a sharp sensation in the poultry market, owing to shippers from the East, who are running amuck. Eleven cars came last week (nine alive and two dressed), and poultry is selling in large quantities at less than cost. Eggs and butter are drooping a little in outside rates, as is usual when new grass comes along. Common grades are not affected yet. A few oranges are in from Oroville and Porterville, but they are not ripe enough yet. Dried fruit is firm, without change. Most supplies, except prunes, are in second hands. Vegetables are quiet. Fancy potatoes and onions are scarce, but ordinary shipping grades are abundant. Wool is moving at a lively rate, speculative buying is brisk and an early cleanup is expected.

The Water Conservation Convention.

The long contemplated convention of those who desire to accomplish something in promotion of water conservation, and forest protection as an agency ministering thereto, will be held in San Francisco on Tuesday, Nov. 14th. It promises to be one of the greatest assemblies ever held in California. No previous assembly has been so long under contemplation, none has had a wider field of delegacy, both geographically and industrially, because the conservation of water in an arid region underlies agriculture, mining, manufacture, commerce—in fact, all lines of activity which aim at development and prosperity. It is not so much the fact that water conservation is the foundation of all prosperity and growth—that fact is as old as civilization. It is rather that we have never had in California so wide appreciation of the fact and its bearings upon our own future as a State that we anticipate a wider participation in this convention than any other one of similar scope which has preceded it. This wide interest has led to appointment of delegates by counties, by municipalities, by great industrial organizations, by private and corporate enterprises, to an extent never before attained in California. We cannot see how the assembly can fail to be in its broadest sense representative, incisive, broadminded and influential. As such, it deserves the closest attention from all who earnestly desire the progress and development of the State.

Much time has been given to projection of the meetings. It must be at least half a year since it was first publicly suggested. It was contemplated to hold the meeting much sooner, but the delay is desirable because of the wider public attention and interest secured by longer discussion. We are not personally familiar with the opinions of the projectors of the convention, but the fact that they have apparently worked for breadth of representation at the cost of delay would, on the face of it, command commendation. In this great matter, which must necessarily consume many years, perhaps even a generation of time, in its ultimate realization by the most expeditious route, it is wiser to start right than to start quickly. It has been quite freely charged in some quarters that a movement starting in San Francisco, and, naturally, being attended by some definite expression of views on the part of its projectors, was really a sort of proprietary movement for the enforcement of those views, and as these views may be thought to be actuated by some particular motives and interests, therefore the movement is intended to serve such interests. We believe that this reasoning is illogical and the apprehension caused by it, consequently, unnecessary. It seems to us if such aims were prevailing, the projectors would have taken a narrower course at first and would have launched their scheme in shallower water. As it is, the whole movement, whatever may be its suggestive origin, is to plunge at once into the deepest waters, in the form of the most widely representative industrial convention ever held in the State, and whatever can survive that test must have, at least, some quality of truth and soundness and public advantage.

We certainly deprecate certain personal issues which have arisen in the discussion of the declaration of purposes made by the projectors of this convention. We expect the convention will make rather short work of them. We believe that such a representative body of men will declare at once for ideas which will be as high as known truth, as broad as the industrial future of the State, and so deep that all personal motives and ambitions will be at once and henceforward engulfed and forgotten. We believe the convention can be trusted to recognize any such considerations, if any have really intruded. Certainly no movement of such breadth as this can proceed an ell upon the motive power of personal or private interest or ambition, and we are not at all convinced that any such enters into its propulsion. Still, it may be well for delegates to wholly reserve their freedom and refrain from enrolling themselves under any standard whatever until they have opportunities to view all propositions in the light of the convention. It will be, of course, unfortunate to be found at war with motives which do not exist or to oppose policies as corrupt which may have no such element in their suggestion. Let all come unpledged either to persons or policies, and determined to lend their influence to the support of the broadest and soundest views which are attainable, and we shall have no fear that any personal or local interests or ambitions can sway the convention.

Concerning the conflicting policies which have been arrayed against each other in the preliminary discussions about the convention, we are quite sure of two things which are to be quite clearly discerned in the prevailing agricultural sentiment of the State. One is that the cession of the public lands to the States enclosing them is held to be a dangerous proposition, because of the risk of their passing in large bodies to private or corporate ownership. This sentiment might naturally change if it could be clearly shown that such danger can be surely averted and a safe method of State development for the encouragement of small holdings assured, but this end is clearly essential to any change in the popular sentiment. There is a settled opinion that legislatures are more susceptible to various kinds of persuasions than the Congress of the United States be, consequently there is nervous fear of land-grabbing on a colossal scale if the areas are given to the States for reclamation.

But if it be demonstrated that this danger could be averted, and if it be shown that no private or corporate interest could possibly undertake these immense reservoirs which would require such great capital and hold it unproductive for so long a time under the best possible execution of the work, the proposition of the State assuming the expenditure still does not commend itself to agricultural public opinion. All bonding propositions are offensive, though we are sure that all should not be condemned. Still, to proceed upon that method is to invite opposition and condemnation for the whole proposition. No matter whether bonding for such immense schemes is good financial policy or not, it is almost idle to discuss it, because the people will not vote for it. It is often very difficult to carry bonds for new school houses, and that line of expenditure is unquestionably the most popular of all. It is not usually opposition to the school building, but to that method of doing it which excites opposition, and a direct tax for the building has often succeeded after bonds have failed. People who are slow to vote for bonds for local affairs of conceded desirability are loud against bonding for more remote objects. The determined opposition to all the good-road-bond propositions of the last few years shows the popular mind.

One popular project at the present time, so far as we can discern, is that the United States Government should undertake these immense projects as a system of internal improvements in the arid regions quite as rational as the river and harbor improvements of the humid regions, and calculated to distribute public expenditure more evenly over the country. It is claimed that Uncle Sam should undertake proper measures for the reclamation of his own property and marry the land and water beyond chance of divorcement. So far as this can be done by securing revenue by rent of the lands for pasturage, the better. Let the arid region do what it can in its own behalf, rather than for the enrichment of free rangers. We do not, however, desire in any way to forestall the action of the convention, but simply to suggest that, if it is to take any hold upon the popular heart, it must act wisely and with due regard to public opinion. If it takes a wrong line, the whole issue will be delayed and time will be lost. Let the delegates, therefore, prepare themselves to act independently and according to their best convictions, and not be swayed too easily by those who may be honestly holding mistaken views. Let an effort be made by all delegates to ascertain the beliefs and wishes of their constituencies, to the end that the convention may be broad, not alone in its delegation lists, but broad in its views and sound in its conclusions.

QUERIES AND REPLIES.

Broom Corn Growing.

To the Editor:—Is there any publication on broom corn growing in California, and what is the standing of the crop?—Rancher, San Bernardino county.

There is no publication concerning growing broom corn in California, except short accounts which have appeared from time to time in the agricultural papers, chiefly in the Pacific Rural Press. Broom corn does not succeed well in many parts of the State. It does not seem to enjoy the dry air of our summer in the interior; although there may be moisture in the soil, the plant does not make as free a growth as in a humid climate. The crop chiefly produced at the present time comes from the lowlands, chiefly along the Sacramento river, where the atmosphere is mellowed somewhat by the proximity to the overflowed land, and in the coast valleys reached by moist air from the ocean. We have not heard of it succeeding on the dry plains anywhere. If, however, one is able to get a thrifty growth of ordinary Indian corn, the presumption is in favor of doing pretty well with broom corn. The culture is about the same in all respects as with Indian corn, except that the harvesting has to be done when the plant attains a certain condition of the brush, as it is called. General suggestions on the subject of growing broom corn, which you would adapt to the conditions of your locality, can be found in a small book entitled "Broom Corn and Brooms," which we can supply, post paid, for 50 cents. The broom corn industry of this State is somewhat restricted, because it is very easy to oversupply the local demands, and such large quantities of the material are produced in the central West that there seems no opportunity for export. By inquiry of the Los Angeles broom makers you could easily ascertain what the condition is and what the prospect of sale would be in your part of the State.

Fruit Varieties for Elevations.

To the Editor:—A friend of mine wants to plant a few fruit trees on his mountain place. What kinds can he grow of apples, pears and cherries—say, six varieties of each kind?—Reader, Chico.

Unless the elevation in the mountains, for which you want fruit trees, is very high—that is, more than 3000 feet—you ought to be able to grow almost any kind of apple, pear and cherry, because these are among the most hardy fruits. The following are varieties which are chiefly grown in the mountains:

Apples: Red Astracan, Gravenstein, Tompkins County King, Baldwin, Winesap, Yellow Newtown Pippin. Many others should be mentioned also, but these complete the number you mentioned and give a succession from early to late.

Pears: Bartlett, Duchess, Flemish Beauty, Dearborn Seedlings, Winter Nelis, Kieffer.

Cherries: Early Purple Guigne, Black Tartarian, Bewelling, Governor Wood, May Duke. If you are apprehensive about the success of the sweet cherries plant more of the Dukes—say, the Late Duke, English Morello and the Belle Magnifique.

Budding Over Lemon Trees.

To the Editor:—Can lemon trees be budded back into oranges? Can you bud into the root and get satisfactory results? By budding back into oranges will the fruit be badly affected in any way?—Subscriber, Tulare county.

It is perfectly feasible to bud lemon trees back into oranges, provided the lemon was budded on the orange root. Orange buds on lemon roots do not give satisfactory oranges; but so long as there is only a small part of lemon wood between the orange root and orange top, it does not do any harm whatever, and a great many lemon trees in the southern part of the State are being grafted and budded into oranges in the very way you contemplate. We would not try to work into the root, but into the tree, above the forks of the main branches with the trunk.

Temperature for Churning.

To the Editor:—What is the best temperature for the cream to form butter?—Reader, Simi, Ventura county.

The temperature depends somewhat upon the richness of the cream. For ordinary cream in ordinary outside temperatures, 60° Fahr. is about right. If the weather is very cold the cream should be a little warmer, and if the weather is very warm it will be better to cool the cream a few degrees lower, if possible. Very rich cream should be churned at a little lower temperature than thin or ordinary cream. Thus it will be seen that it is almost impossible to give an exact degree. It is very important, however, to have an accurate thermometer, such as is sold as a "tested thermometer," and then see that the temperature does not depart too far from the figure given. A few degrees either way does not matter perhaps in a general statement, but if the butter maker uses his thermometer constantly and watches the results with the cream he uses and with the temperature of the air in which he works, he can decide in his own practice more closely than we can in a general answer.

Egyptian Corn for Horses.

To the Editor:—Will you kindly advise me as to the value of Egyptian corn fodder? Is it fit for feed once a day for a horse, or is its tendency towards colic?—Reader, San Jose.

Theoretically, Egyptian corn should be good feed for horses. What is the experience of those who have used it? The grain is very starchy and probably might easily become pasty and cause indigestion, but does it actually do so? It is a question of fact which can only be answered by experience. In the San Joaquin and Sacramento valleys, where much has been grown for years, there are many readers of the Pacific Rural Press who can easily answer this question. We would like to hear from them.

More About Freaky Blooming.

To the Editor:—I have just read in your issue of Oct. 21st the article entitled "A Revolving Bloomer." My experience, as far as it goes, coincides with that of Mrs. Dunn. One end of my apple orchard is on ground naturally moist, the other end dry. Now, last year the trees on the damp ground, particularly the Bellefleurs, began blooming late in the summer, and when I gathered my crop in October there were many second-crop apples, ranging in size from a hickory nut down, and some trees still blooming. This unseasonable bloom was confined entirely to the damp end of the orchard, the trees on the dry end remaining perfectly normal. I have no theory to offer, but the cause could not have been lack of moisture, as the ground was damp 2 inches below the surface and had been so all summer. I also noticed this spring that those trees bloomed very sparingly or not at all.—F. A. Blake, Hemet, Riverside county.

These facts are interesting. Let us have all observations on moisture conditions in connection with freaky blooming and fruiting. We have an idea that such action will always be attended by moisture following dormancy due to drouth. The cases cited seem to indicate that constant moisture, perhaps prolonged through too long a season of high temperature, will also do it. Let us have all the facts.

Cow Points.

To the Editor:—What should be the average yield of milk per cow per day in a herd of five Jersey cows, aged respetively three years, six years, six years, seven years, ten years? The cows are fed all they can eat of barley hay and are given about five and one-half pounds of bran apiece per day. Would any other kind of hay be better than barley hay—for instance, oat hay? Would shorts or middlings make the quantity of milk larger, if fed instead of bran? What amount of feed per day should a cow have for the largest yield of milk?—Reader, San Jose.

An average of two and a half gallons every day in the year, and as much more as possible. You could save part of your bran by using some alfalfa hay. Oat hay is rather better than barley, as a rule. Bran will do all that the other millstuffs will, and more, though if you use alfalfa hay middlings balance the ration better. Feed a cow all she will eat up clean and digest well. It is impossible to give weight.

Espersette.

To the Editor:—How would sanfoin (espersette) succeed as a forage plant in the coast section of Mendocino county? What other grasses could you recommend, either for sowing on the ground after the brush has been cut and burned or after the land has been cultivated?—C. Queen, Fish Rock.

Espersette has failed to meet expectations, so far as we have heard, in all parts of California. As a drouth-resisting plant for places too dry for alfalfa it has conspicuously failed. If it succeeds with you it will be because of prevalent ocean moisture, and possibly on a light soil, which it prefers, where moisture is adequate, it may make a better showing than it has elsewhere in the State. We are, however, of the opinion that Orchard grass, Tall Oat grass and Rye grass, with a sprinkling of white clover, will give you better results upon the land you describe.

The Blastophagas.

To the Editor:—I notice in your issue of the 21st an article relative to Smyrna figs. Will you kindly advise me when and where one could get the blastophaga?—E. E. Potter, San Francisco.

The only blastophagas known to be in California are in charge of George C. Roeding, Fresno, Cal. Special pains are being taken to keep them through the winter, and we are not aware whether there are any available for distribution as yet. If they succeed in wintering the insect, distribution for wider trial will, no doubt, be undertaken next summer.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Oct. 30, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has continued below normal, with generally cloudy weather, and fogs in some portions. Light rain has fallen in all sections except the extreme south, and has been beneficial to growing crops and pasturage. The deciduous fruit season is practically ended. There are still some late Tokay grapes on the vines, and such as were injured by rain are being sent to the wineries. The second crop of raisin grapes is being cured and disposed of. Oranges and lemons are ripening rapidly, with indications of a larger crop and better quality than that of last season. Walnuts of excellent quality are coming to market in fair quantity. Grain in the San Joaquin valley is making a good growth, and pasturage is abundant in all sections. Plowing and seeding are progressing, except in some localities where the heavy rains left the soil to soft to work. There is still a considerable quantity of grain unthreshed and hay unbaled in the coast and bay section, and some damage was done by recent rains.

Sacramento Valley.

The deciduous fruit season is nearly over. The last of the Tokay grapes are being picked and those of inferior quality are being shipped to wineries. There is a small crop of apples. Pruning will commence a month earlier than usual. Oranges are commencing to color and are looking well. Farmers are plowing and seeding, except in localities where the heavy rains left the soil too soft for working. Grass is making a healthy and rapid growth. Many farmers are sowing oats. In some sections baled hay is being opened and dried out. There was a light frost in portions of Tehama county on the 24th.

Coast and Bay Sections.

In Sonoma county the second crop of wine grapes is maturing and will be gathered by the 5th of November. The damage by recent rains was very light and in many vineyards the fruit was uninjured. Sugar beets were considerably damaged by rain. There is still a large quantity of hay unbaled, owing to a scarcity of presses. Grass has made a good start and pasturage is abundant. Volunteer grain is up and looking remarkably well. Plowing is progressing.

San Joaquin Valley.

The weather has been unfavorable for raisin curing. Heavy dews and fogs retarded the drying of the second crop. Lemons and oranges are maturing rapidly and shipments will commence in a few days. Plowing and seeding are progressing rapidly. Rain has fallen in nearly all sections and has been more beneficial than harmful. Grain is making good growth and pasturage is abundant. It is probable the acreage of grain will be considerably larger than last season's.

Southern California.

Conitions have been favorable for raisin making and the work is nearly completed. All deciduous fruits are still plentiful. Wine making continues. Oranges are ripening rapidly. The crop is heavier and of better quality than at this time last season. Preparations are being made for a large acreage of grain. Pasturage is good. The water supply is ample for present needs and much good has resulted from recent rains. Walnuts are being gathered and shipped.

Los Angeles Summary.—Moderately warm weather, following the rains, caused a marked growth in vegetation; grass and volunteer grain have started and the hillsides and bottom lands are already becoming quite green. Considerable sacked barley was damaged by rain in San Luis Obispo county, which also injured grapes and berries; otherwise farming operations were benefited and vegetables greatly improved. Plowing and seeding continue, with the ground in generally good condition for working, though some ranchers are waiting for more rain to insure plenty of moisture. Bean threshing is nearly finished under favorable weather during the week. The walnut harvest is in active operation; the crop is fair and of excellent quality. Deciduons frult crops are practically all gathered. The weather was favorable for oranges, which are increasing in size and coloring fast. First ripening of early peas being shipped.—George E. Franklin.

Eureka Summary.—Pastures show good effects of recent rains. The amount of milk in creameries has increased considerably. Crops are almost harvested, except potatoes and apples. Soil is in good condition for plowing.

The following data for the week ending 5 A. M. Wednesday, November 1, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	.28	5.95	3.67	3.72	40	62
Red Bluff	.42	3.04	0.89	2.04	44	72
Sacramento	.76	4.44	1.00	1.13	48	72
San Francisco	.32	3.92	1.92	1.57	48	68
Fresno	.25	2.08	1.15	.93	42	74
Independence	.00	0.37	0.31	1.01	36	68
San Luis Obispo	.48	4 92	0.59	1.89	42	78
Los Angeles	.09	1.57	0 18	1.26	44	82
San Diego	T	0.42	0.07	.49	50	78
Yuma	.00	0.08	0 18	.97	44	100

THE FIELD.

California's Agricultural Advantages and Opportunities.

By E. J. WICKSON, for distribution in connection with the State Board of Trade's Exhibit at the Paris Exposition.

Historical.—California is not a new country. For more than a century livestock and grains and fruits have been grown and have yielded wealth and comfort to a farming population. It is true that until the discovery of gold, about half a century ago, the population of European blood was small, and farming methods were rude and were pursued with very little system and energy, but still, under control of the missionaries, there were large herds accumulated, vineyards and orchards made productive and considerable quantities of animal products, wine and grain secured. Large land owners followed the example of the missionaries and possessed themselves of vast herds, traded the produce with visiting ship captains and became rich and prosperous and secured such degree of agricultural development and home comfort as seemed to them desirable.

Over fifty years ago the discovery of gold brought to California thousands of enterprising and energetic men and women of American and European birth, and intelligent and systematic agriculture was shown ere long to be on the average more profitable and sure than mining. The experience and the materials of the preceding half century of rude agriculture were used to their fullest extent and they lie in the foundation of the California agriculture, which is now the wonder and admiration of the world. But other elements of the foundation were greater than these. The bright men of all nations, who came to California fifty years ago, brought the agricultural wisdom and methods of all parts of the world, and the tools, plants, seeds, improved animals and other materials which they knew to be the best in their own countries. They brought also energy and understanding and devotion. The result of a half century of agricultural progress, secured by emigrants from all enlightened nations and their children, is seen in the present eminence of California agricultural productions, with a value of $100,000,000 a year; cities and towns of great size and industry; transportation companies of great mileage and capacity; nobler free universities and common schools than are possessed by many States of much greater population; agricultural machinery of wonderful capacity and effectiveness; a larger variety of grains, fruits and vegetables than any other State can grow, and, best of all, homes of comfort and wholesomeness for all classes of population—all these are features of California's agricultural development.

These are a few facts about the California which is now sending her splendid products to all parts of the world and is, as never before, attracting the attention of investors and home seekers from all nations. It is important to remember that the State is not new. It is impossible to have such a tried and triumphant agriculture in a new State or country. Such achievements are the result of experience and development, and they are the guarantee to those now wishing to make investments and homes that they are not proceeding upon prophecies or prospectuses, but upon the basis of facts which earnest men and women have labored long to demonstrate, and whose demonstration lies in profitable accomplishment. He who wishes to invest his labor and money in agricultural home making in California takes no risk, if he is sure of his own energy and common sense, and has discernment enough to secure good advice. The newcomer is much less liable than formerly to be misled by self-serving and ignorant advisers, but bad advice is still current. The truth about California is good enough; but one must be sure he has the truth.

Natural Advantages.—The are several indisputable advantages which the California agriculturist enjoys. A few of them may be enumerated as follows:

First—A great variety of soils which are for the most part very deep, rich and easily cultivated. These soils have been formed under conditions which have prevented the escape of plant food by the leaching effect of excessive rainfall. For ages the rocks have been disintegrated; for ages the streams have deposited rich alluvium; for ages wild vegetation has yielded humus and all these rich accumulations have held their plant food, so that now the agriculturist finds, not alone near the surface, but to very great depths, soils which are rich and fertile throughout their whole mass, so that the feeding roots of fruit trees and vines and some forage plants are found more than 20 feet below the surface. It is true that in some places there is rock or hard clay, and in other places there is standing water, which prevent this deep growth, but the experience of planters and the systematic investigation of the agricultural experiment station of the University of California both show that the predominent character of California soils are great depth, permeability and natural fertility. This is also shown by the fact that California agriculture has proceeded thus far almost without the use of manures except for some of the older fruit trees which have been bearing heavily for years. This natural fertility is a matter of surprise to farmers of older and more humid countries who have always found that an investment in manures was necessary to the production of a profitable crop.

Second—The climate of California is of incalcuable agricultural advantage. This has usually been estimated by the possibility of growing semi-tropical fruits which the low temperatures deny to wintry countries, but this is only one measure of the advantage. The mild winter, which prevents ice and snow except upon the mountains, is of great value in all kinds of farming. It brings early maturity to livestock of all kinds. It gives a long growing season to all farm crops and this, coupled with the natural fertility, is the secret of the largeness and quality of all field, orchard and garden plants for which California is famous. It also affords the farmer almost a continuous working season, so that the energetic worker can accomplish much more in a year than in cold, winter climates. It relieves him of the cost of such buildings as the comfort of livestock requires in cold climates, and from much of the labor which their winter care and feeding make necessary. In a mild climate, too, the farm home can be made comfortable and attractive at a minimum expenditure, because there are no low temperatures to exclude and very little fuel suffices to bring the interior of a very lightly constructed building to a gratifying warmth even in the coldest weather. The same conditions naturally make less requirements in heavy clothing. All these things can be more readily realized by the distant reader if he remembers that the winter months are the chief growing season of field crops, and the ripening season of citrus fruits, in California.

Third—The division of the year into two seasons and the concentration of the rainfall into half the year is of decided advantage to the farmer as soon as he learns to adapt his methods to it. It can hardly be appreciated by one accustomed only to a humid climate. If, however, he will think of a winter always warm enough for plant growth, with the plants sending their roots far down into the rich, deep soil and with rain falling at intervals and sinking deeply, he can understand that the soil becomes a great reservoir of subterranean moisture which the plants can readily reach. Then the season changes, the rain ceases, the top growth of the plant increases under the greater warmth. Ample moisture rises by capilarity in the soil and by the action of the deep roots, and the plant perfects its crop in clear, dry air which largely prevents the growth of parasitic fungi and yields a great weight of heavy, bright grain. As the dry season is best to perfect the grain so is it best to harvest it, and the months of long, clear days with hardly a drop of rain, from haying all through the grain harvest, is a benefit and a blessing which it is hard to overestimate. The distant reader must remember that field crops sown at the proper time do not suffer by the long dry season; the preceding growth in a mild, moist winter so establishes them that they do not lack moisture. The plump white wheat and the large bright brewing barley which California exports mainly to Europe and which have reached a valuation of $36,000,000 in a single year, could only be produced in their characteristic quality in a country with a rainless summer.

The same is true of our peerless fruit products. Constant surface cultivation guards the moisture in the subsoil reservoir from evaporation and holds it for the use of the trees and vines. The fruit reaches its marvelous perfection because it enjoys such a long period of unobstructed sunshine. Rain would seriously change its character. And the same bright, dry air which perfects the fruit, enables the grower to harvest it in the best possible condition at the lowest possible cost and dry it in the open air with beauty and quality, which challenge comparison with the most elaborate and expensive evaporating processes. Here again an annual product of dried fruits and raisins valued at $10,000,000, and a product of deciduous fruits for shipment fresh and canned and for wine making, valued at $9,000,000 more, are largely dependent upon a rainless summer. It is then a fact, capable of the fullest demonstration that the dry summers of California, which the mistaken dwellers in humid climates are inclined to commiserate, are of incalculable advantage to the crops, to the growers of them, and to the general wealth and prosperity of the State.

Fourth—Another advantage of the two-season year lies in the fact that the grower has control of moisture for all his summer-growing crops. If the rainfall is inadequate he controls moisture by constant summer cultivation which prevents evaporation. If the rainfall is inadequate he controls moisture by resorting to irrigation. In either case he is able to regulate moisture so that he escapes the extremes of drouth or saturation, both of which do so much harm to crops in summer-rain countries.

Wide Agricultural Fitness of the State.—Many other incidental advantages of the naturally rich and deep soils of California and of the peculiarly favorable climate could be cited were it not for the command of brevity. The manifest conclusion from the study of these characters and from knowledge of what is really being accomplished, is that California is fitted for all products of the temperate and semi-tropical zones, which means that it affords a welcoming home to all the useful vegetation of the world except that of a strictly tropical character. This fact is not so generally known as it should be. California's fame has extended so widely through the growth of semi-tropical fruits that her accomplishments in the products of the upper regions of the temperate zone are apt to be overlooked and home seekers sometimes choose locations in the more northerly parts of the American continent because of the mistaken idea that California is only suited to semi-tropical cultures to which they are unaccustomed. This is a most unfortunate misapprehension. Every staple product of the upper temperate zones is improved in its character and yield by its introduction to California—if a proper location is chosen for it, and practice is modified to meet the new conditions as the intelligent farmer can readily do. Instead of California being, as it too frequently thought, a country of a few great specialties, it is a country of the greatest possible range of products, and any man who can do any kind of farming well can find a place where his labor will yield him greater results than are possible under less favorable conditions. If, therefore, a man understands the growing of animals and manufacture of animal products, he can here find mountain pastures like those of Switzerland or rich, low, reclaimed meadows like those of Holland and all the variations of pasture land which lie between these extremes.

If he understands the growth of cereals he can find localities for all of them, from the rye and spelts of the north to the wheat of the Mediterranean. If he understands fruit growing he can grow the fruits of all Europe with a soil and climate which work with him instead of against him; and he can largely forsake his laborious arts of protection and trust his trees and vines confidently to the kindly skies.

Adaptation of California to Mixed Farming.—These few general statements ought to show that California is not a State of great specialty farming alone. We have, of course, our great grain fields with correspondingly great machinery for cultivation and harvesting, and our great fruit, dairy, vegetable and other farms chiefly given to a single crop and unique facilities for production at a minimum cost on a large scale, but these do not comprise our sole means of production. We have thousands of small holdings which are yielding their owners comfort and a competence by mixed farming. There is abundance of land to be had at a reasonable price which is waiting for development and improvement on the good old-fashioned plan of growing what is needed for family use and surpluses of the same things for exchange or sale in small amounts. Soil and climate which favor a great diversity of products are an incalculable advantage in giving the family varied and wholesome food, and they open a wide field for an industrious and intelligent man to use his labor to the best advantage in producing crops which buyers desire to pay money for. He can surround himself with farm animals and poultry which will turn the food he grows for them into products which are in sharp demand. Owing to the large acreage given to special farming for export products, there is a fine opportunity in nearly all parts of the State for butchers' meats, cured meats, for choice dairy and poultry products and for garden vegetables, so that he who secures good land and works earnestly and intelligently to follow methods which suit the locality, is apt to find himself out of debt and with money in bank when his more venture some neighbor may be suffering from some error or miscalculation in his larger operations.

California needs for the full employment of her resources and her advancement as a State a larger population of thrifty, hard working and close calculating farmers. There are plenty of opportunities for investment of capital on a large scale, but this fact does not need urging. Large capitalists and syndicates are usually awake to their own opportunities and the fact that European capital is now being invested more freely than ever before in producing enterprises in California is of itself demonstration of the chance in that line. The more there is done in such development the greater is the demand for labor and the greater the consumption of all home supplies. This opens more widely the opportunity for the farmer who comes to use moderate capital and ample energy and common sense in the various lines of agricultural production which he understands and along which he desires to train his family to self-respecting manhood and womanhood in a free and progressive country.

How to Begin in California.—Conditions were never so favorable for beginning in California as they are now. The era of fictitious values and unreasonable expectations has passed away. Land values are nearer what the lands are actually worth. It is a good time to invest in improved properties for those who have ample capital and it is a good time also for those of moderate means to buy unimproved land and devote their labor and knowledge to its improvement. There is every prospect of success to those who merit it by diligence, intelligent effort and

business-like thrift and economy. To pay high prices for land, without knowledge of its quality and adaptability, for the purpose of growing crops with which they had no practical acquaintance, has yielded loss and disapointment to some who have invested in California. Such undertakings are not wise speculative ventures; they are not even fair games of chance—they are traps for the unwary, and they who walk into them are not wise.

In all parts of the State it is possible to buy land on the basis of what it may reasonably be expected to produce and so much has been learned by experience that it is now possible to select crops and locations with very little danger of mistakes which cannot be readily corrected. There is, of course, great variation in the price of land, not so much according to its quality as to its situation. In districts farmed for special products higher values naturally rule, but just as good land, and in some cases better lands for other products, can be purchased for low prices. If one is willing to locate at a little distance from populous centers and thickly settled districts he can still obtain as good land as there is in California at a price which the land will soon repay if it is handled wisely and its earnings carefully husbanded.

Most Californians who are succeeding best in persuading the land to pay for itself are those of European birth. They have habits of constant labor and careful economy in expenditures which the Americans have not formed. The American counts much upon his shrewdness and ingenuity and shapes his activities to employ them, while the European loves the land and to own it is the end of his ambition. As a natural result the land responds liberally to his self-sacrificing effort and soon makes him its satisfied proprietor.

At the present time there is a better demand for agricultural laborers in California than there has been for many years and the chance of earning something by working for others while getting some acquaintance with the State is very good. Still none should come empty handed. The laborer is compelled by local conditions and traditions to shift for himself more than in older countries and the experience is sometimes unpleasant. The one who comes prepared to buy his home, though it be a small one, or to provide himself with team and tools for a leased farm, is at once independent and can advance rapidly if he have the habits and purpose which we have described.

CEREAL CROPS.

Suggestions on Fertilizing from South Australia.

To the Editor:—I have the honor to acknowledge receipt of marked copies of your paper in reference to a letter sent to Thos. I. Wilson, Esq., of your city. The receipt of inquiries concerning the use of commercial fertilizers in South Australia has shown the great similarity of conditions in California and South Australia, which are almost identical, and has induced me to write an exhaustive report on this matter for the benefit of Californian wheat growers and others which it may concern. This report I have forwarded to the Chief of Bureau of Foreign Commerce, Washington, D. C., who will no douht supply you with a copy. Any further information you may require, if possible I will supply, and I would be obliged if you would forward any of your papers which deal with this subject. Chas. A. Murphy.

Consular Agency of the United States, Adelaide, South Australia, Sept. 7, 1899.

THE REPORT.

The following is the report to which Consular Agent Murphy alludes and which we have by the courtesy of the State Department at Washington:

The Occasion for the Inquiry.—The agent-general of this province in London, Hon. J. A. Cockburn, some time ago mentioned in a lecture the great strides which had taken place in improvements in wheat farming in South Australia, with the result that numerous letters came from the United States, asking me for information in regard to the use of fertilizers here. Upon investigation, I noticed so close a similarity of conditions in wheat farming in California and South Australia that I have thought it best to report on the subject.

Cereals in South Australia.—For many years past, wheat has been one of the principal staple products of this province. South Australia proper (not inclusive of northern territory) contains 243,244,800 acres (380,070 square miles); of this, 191,697,920 acres, viz: nearly 79% is outside of counties, practically unknown, and wholly uncultivated. Of the remaining 51,546,880 acres, 2,604,122 were in 1898 under cultivation. Ninety per cent of the cultivated land, or 2,523,949 acres, was in cereal crops, as follows: Wheat and hay, 1,971,835 acres; oats, 12,233 acres; barley, 31,398 acres; and fallow land, 507,484 acres; the balance, 80,173 acres, being in orchards, vineyards, grass, gardens, etc.

These figures show the importance of the cereal harvests, and any improvement in their cultivation is of paramount importance to the South Australians. For years, the agricultural college, agricultural bureaus, the press, and progressive farmers had been striving to convince all cultivators of the soil of the value of artificial manures, but with small success.

Decline in Crops.—In the early days of the colony, the rich virgin lands yielded for many years successive crops of from twenty to forty bushels of wheat per acre; but gradually the average fell. New areas were then brought under cultivation, until the limit of regular rainfall was reached; and the two causes of uncertain rainfall and exhausted soil reduced the average product per acre to about seven bushels. Experiments by the more advanced farmers gradually showed that the exhaustion was only partial, that there was still sufficient nitrogen and potash to produce many good crops, if phosphoric acid were added.

Owning to the uncertainty of the rainfall, wheat growing over large areas has to be carried on with a very small margin of profit, and most farmers were afraid to go to the expense of buying and applying phosphatic manure. This was the situation until about fire years since, when the experiments of several practical farmers on dry limestone land with an average rainfall of about 15 to 17 inches showed that by the use of the American combined seed and fertilizer drills, a very small amount of phosphatic manure drilled in with the seed produced hitherto unheard of results. It took several years to convince the public that the yields reported were genuine; but the evidence was clear, and the movement spread rapidly, as will be seen from the following figures:

The Use of Fertilizers.—During 1896, 5,000 tons of fertilizers were used, which cost the farmers about $121,662 50; in 1897, 14,000 tons were used and cost $291,990; in 1898, 25,000 tons were used, representing an outlay of about $364,987.50. Reckoning one cwt. per acre, 25% of the land under crop received artifical stimulant in 1898, viz, about 500,000 acres; in 1897 the acreage manured was not more than 220,000, and in 1896, only 60,000.

The figures are even more significant when it is remembered that they cover a peroid affected by a drought which for severity and area affected had never before been experienced. Land values have materially hardened. The low rates of interest which have been ruling for some time may in a way account for this; but the main reason is, I take it, that investors, as well as the farmers, are satisfied that the day of exhaustion of wheat land is past. It is not possible in this report to give information as to which of the manures have been best suited for certain soils. This is impossible even among the farmers here, where each has to decide what manures are required for use on his hand. To this end, most practical farmers have field plots of various sizes (the average being half acres) and dress as follows:

(1) A complete manure containing suitable proportions of phosphatic acid, nitrogen, and posassium oxide.
(2) Manure containing only phosphatic acid and nitrogen.
(3) Manure containing only nitrogen and potassium oxide.
(4) Phosphatic acid.
(5) Nitrogen.
(6) Potassium oxide.
(7) Unmanured.

Sometimes, the values of the various manures containing fertilizing ingredients are submitted to comparative tests, and some ascertain the quantites of each manure necessary by a graduated series of test plots.

I will now briefly describe the various manures used.

Phosphate of Lime.—Under severe cereal cropping, phosphatic acid is most likely to become deficient here, hence, 90% of the manures used contain phosphates. The most universal and probably profitable form is mineral superphosphate, which is sold guaranteed to contain between 35% and 38% soluble phosphate of lime, and costs users about $23 71 per long ton. The manure is chiefly drilled in with the seed, at the rate of between eighty and 112 pounds to the acre. (This will no doubt surprise people using between two and three cwts. per acre, and this method is one of the revolutions caused by the combined seed and fertilizer drill. One cwt. super contains enough phosphatic acid to produce a thirty-bushel crop, and nearly all the super put in with the seed is immediately available). A few quotations of results will speak more emphatically than could my pen. On Yorke's Peninsula, last year, thirty-five pounds of seed drilled in with eighty to ninety pounds of English super gave fifteen bushels per acre, while similar adjoining land broadcasted with about seventy-five pounds of seed, with no manure, produced nine bushels; fifty-two pounds of seed, eighty pounds of English super, sixteen bushels; adjoining portion broadcasted, eight bushels; forty pounds of Algerian oats drilled with 112 pounds of super, two tons hay per acre; thirty-five pounds red wheat, ninety pounds of super, same result. Similar results came from all over the country. During the season before last, when the crops were practically a failure all over the colony, seventy-five pounds of super returned twelve bushels of wheat, while crops on unmanured fallow land adjoining were not worth reaping. This is how a farmer reported to the local agricultural bureau on the profitable use of superphosphate: Extra costs per acre—manure, 97 cents; drilling, 24 cents; carting and clearing extra crop, 28 cents; extra labor carting and handling super, 6 cents; interest on money laid out on manure and drill, 10 cents; less saving of seed, 16 cents (ruling price at seed time); total extra cost, $1.52 per acre. The manured land gave six bushels to the acre more than that broadcasted—$3.40, or a net profit per acre of $1.88. This also shows the care and thoroughness of the South Australian farmers' tests and experiments.

Bone superphosphate, or vitriolized bone, contains about 14% soluble phosphate, 20% insoluble phosphate, 3% nitrogen, and a small quantity of potash, and costs about $27.98 per long ton of 2,240 pounds. This manure is not much used on cereal crops, as the land does not yet, in the vast majority of cases, require nitrogen, and the 3% of this fertilizer costs about $7.29 per ton. The immediate results generally are not as good as mineral super, unless the soil is deficient in nitrogen, which is rarely the case here, as explained later on.

Basic slag, or Thomas phosphate (a by-product in the manufacture of steel from iron ore with a small percentage of phosphorus in it), contains 25% to 40% of phosphate of lime, and costs about $17 per long ton. The value depends largely on its fineness. As usually sold here, it is guaranteed that between 80% and 90% will pass through a sieve of 10,000 meshes to the square inch. This fertilizer has not given such general satisfaction as mineral superphosphate. Owing to the light rainfall, South Australian soils are usually fully supplied with lime and are deficient in moisture. On some clays deficient in lime, peat and light sandy soils, it has paid well, and is, I think, a profitable manure only for special land.

Bone dust or meal has been used in some of the localities having a good rainfall for many years, and quite a number have bone mills; but it is very seldom used for manure, as the action of the phosphates is too slow, and not suited to a light rainfall.

Nitrogenous Manures.—Nitrogenous manures are not so important as phosphatic manures in wheat farming in this colony, because of—(*a*) the regular practice of fallowing; (*b*) the more rapid nitrification occurring in these soils; (*c*) the light rainfall which renders underdrainage unnecessary, thereby avoiding the leaching nitrates; (*d*) the habit of taking only the grain and allowing the straw to be consumed or rot on the land.

The more thoughtful farmers are alive to the situation, and each year conduct experiments with a view of finding out how soon it will be desirable to add artificial nitrogenous manures. So far, the evidence indicates that there is no resason to think the natural supply will prove to be deficient for years.

Still, this form of manure must at some time be added to the soil if the land is to be severely cropped, and for this purpose we have nitrate of soda, sulphate of ammonia, blood manure, and nitrogenous guanos; but, as that part of the nitrates which is not immediately absorbed by the plant passes into the subsoil, a great deal of experimenting must be done before it can be decided what is the most profitable form and manner of application. Nitrogenous manures are especially beneficial to hay crops, as they greatly increase the vegetable bulk.

Potash.—This manure, too, is rarely deficient in these soils, and, like nitrogen, must be restored to the land only if successive or frequent crops are required. Experiments are now being made with these fertilizers. The best-known potash manures are kainit, wood ashes, and muriate of potash. The latter, and also sulphate of ammonia when drilled in with the seed, it is thought, injure the struggling seed and leave it between malting and germination proper, the braird being much weaker and thinner, which will no doubt complicate the manner of application.

The use of lime and gypsum as manure helpers and indirect manures are also studied. The effect of lime on some clay lands has been most marked; it makes the clay less sticky in wet, and more crumbly in dry weather, thus rendering it more workable; it acts on the dormant fertilizing ingredients and decomposes organic matter and mineral constituents, and exerts an influence on the making of plant food. Gypsum absorbs and fixes ammonia, decomposes double silicates in the soil, and sets free the potash when that mineral is present.

Broadcasting and Drilling Manure and Seed.—So far as Australia in concerned, I believe the method of drilling in the manure and seed together had its inception in this colony, and the practice bids fair to revolutionize the wheat-growing industry. It is no small compliment to America, however, to say that all the drills used are made either in the United States or Canada, and the development of the practice of drilling and manuring wheat has led to an immense increase in the trade between Australia and America.

The greatest drawback to the profitable use of manures when broadcasting had always been the large quantities necessary to apply and the difficulties of even distribution. By using the combined seed and fertilizer drill, both these troubles are obviated, and, instead of broadcasting two or three cwts. of superphosphate per acre, it is necessary only to drill in with the seed between eighty and 112 pounds for the seed and manure are put in together, and most of the manure is immediately available for plant food, and one cwt. of good mineral superphosphate con-

tains enough phosphatic acid for a thirty-bushel crop, irrespective of that in the soil. Of course, I have been writing of a colony where twelve bushels have for some years been considered a good return and the average of unmanured crops is about seven bushels. CHAS. A. MURPHY,
Adelaide, August 14, 1899. Consular Agent.

FRUIT MARKETING.

Syrian Olive Oil for America.

California olive oil producers may learn something about pushing their business from the way the Syrians are going to work to supply the States east of the Rocky mountains, who have not learned yet, it appears, that California can as well supply them as Palestine. G. Bie Ravndal, U. S. Consul at Beirut, reports to the State Department as follows:

They Want Pure Oil.—Physicians have written me occasionally, inquiring as to the price of Syrian olive oil, saying in effect that they need pure olive oil in their practice, and that such an article is scarcely to be found in American drug stores, where adulterated French and Italian olive oils prevail. One of these gentlemen informs me that good olive oil is being successfully used in place of cod liver oil for medicinal purposes. Another correspondent, who deals in olive oil for the table, repeats the old story that most of the so-called high-grade olive oil sold in the United States is Syrian, North African and European olive oil mixed with cottonseed oil exported from the United States to France and Italy.

American Oil Growers in Syria.—So far as my consular district is concerned, the olive oil industry is an important and a growing one. The natives are learning by degrees how to properly cultivate, harvest and press the precious fruit. The American colonists at Haifa seem to have proven that by judicious management the olive tree can be made to bear fruit every year; and that by picking the olives from the trees, instead of beating them roughly down with sticks and stones—by which method the trees suffer great damage and the fruit gets soiled—also by carefully selecting the olives when picked, laying the unclean ones aside and reducing the heaps to prevent fermentation, and by the introduction of modern olive presses, the industry may be made very profitable.

The Syrian Groves.—There are olive groves all over Syria and Palestine, but especially along the littoral. Some of the largest ones in my district are to be found in the vicinity of Nablous in Samaria, in the Akka district, and near Beirut, Tripoli and Latakia. The Shwayfat grove (just outside the city limits of Beirut) alone produces in an average crop year about 2,240,000 pounds of oil, valued approximately at $114,000. In the Tripoli neighborhood the production of olive oil was 4,386,000 pounds in 1897 and 708,000 pounds in 1898. The Akka district produces annually from 1,000,000 to 2,500,000 pounds. This gives no idea, however, of the total output in all of Syria. Such information cannot be obtained.

Shipping to America.—A few weeks ago three barrels of olive oil were shipped from here to Detroit, Mich., by order of a prominent American chemist who traveled through Syria last spring. The direct olive oil exportations from this port, as shown by the invoices, have been of little importance, although frequent, and especially intended for Syrian consumption in America. This oil is of but a moderate degree of excellence.

Perhaps the most profitable use Americans can make of the Syrian product is to import in bulk the purest native oil which the market affords, subject it to the best modern methods of purification and clarification, and finally retail it in bottles. A certain amount of olive oil is shipped to the United States from Smyrna, I am informed by the United States Consul at that port, in barrels containing something like 250 oke, or 700 pounds, each.

Struve & Co., at Haifa, an American firm, manufacture both soap and table oil, which competes successfully with the best French oils and sells readily in New York to the extent of some 700 gallons a year. The average price of common oil here varies between 15¾ to 19¼ cents per 2⅘ pounds. Struve & Co. sell their oil at 98 cents per gallon in Haifa. The freight from there to New York has averaged about $14.48 per ton gross weight.

I am told that a French concern has lately started an oil mill at Yafa which produces a better olive oil than the common oil sold here. It ships to France.

The Work of the Raisin Growers' Association.

There are sixty plants in California engaged in packing and seeding raisins this season, the majority of which are located in the Fresno district. These packing houses furnish, in round numbers, employment to 5000 hands, most of whom are women and girls. Very few of these packing houses employ less than fifty, while the larger ones number from 200 to 250 on their pay rolls. The aggregate amount of money paid out to these employees each month will approximate very nearly a quarter of a million dollars while the packing season lasts.

The Rains.—The rains of the past two weeks have checked the delivery of raisins by growers quite materially, but now that the weather has become settled and favorable to drying, the growers will hurry in the crop to the packers and shipments to the East will be expedited accordingly. Eastern buyers have been clamoring for goods for the Thanksgiving trade and packers have in consequence been at their wits end to satisfy the demand in season.

Good Raisins.—All of the loose Muscatel raisins sent East have been of the best Standard grades, and shipments to follow will be of this class of goods. From present indications the Pacifics—the next lower grade to Standards—will be needed for orders on this coast. This will leave the East in possession of the very best class of California raisins, which will be a decided advantage to the markets.

Inspection.—The California Raisin Growers' Association, with its vigilant inspectors in each packing house, is maintaing with rigid rules the "standard of excellence" in every grade of raisins permitted to be boxed and stamped with the name of the Association, so that jobber and retailer can feel assured when purchasing California raisins so stamped, that he is getting just what he pays for.

Local Brands.—The raisins grown in Yolo county, in the vicinity of Woodland, are designated by the California Raisin Growers' Association as the "Woodland" brand, in order that that district may have full credit for the particular class of raisins the growers there produce. The Woodland vineyardists have gained an enviable reputation for the production of Thompson's Seedless and Sultana raisins, of which varieties they grow large quantities. These raisins are put upon the market in the unbleached and bleached form, the latter are "dipped" so as to produce in the finished article a handsome amber colored raisin. This process is used principally by the Woodland growers who have made a marked success in its use.

Value of Association.—The great value of Associations to the farmers and growers of special products, organized for the purpose of properly marketing their crops and maintaining reasonable prices, is shown most forcibly in the experience of the raisin growers this year as compared with the prune growers. Through effective association the raisin grower has marketed his crop at full prices, as fast as the raisins could be delivered and packed, and with positive knowledge that not a car will be carried over into another season, so freely have Eastern dealers placed orders for the crop. On the other hand the prune growers, who have an equally desirable product, find it extremely difficult to sell their crop even at prices which are but little more than half the true value of the product, as compared with other fruits. Dealers, in buying and handling raisins, have perfect confidence in the ability of the Raisin Growers' Association to maintain prices at all hazards, and therefore have no hesitancy in ordering freely. In handling prunes the dealers realize that the growers are without organization and consequently are unable to regulate prices, and if liberal purchases of prunes were made, the price might drop from an eighth to a quarter cent the next day. They are therefore timid about handling prunes at all and buy at as low a price as possible.

ALFALFA is evidently a Kansas favorite. The assessors' returns for this year to the Board of Agriculture reveal much expansion sentiment as to the sowing of alfalfa in Kansas. The number of acres reported for the year ending March 1st is 278,477, a net increase of 46,929 acres, or 20% over last year. Every county in the State except two reports an acreage. The widespread interest taken in this wonderful crop by growers of all kinds of live stock is indicated by the fact that the area has increased from 34,384 acres in 1891 to 278,477 in 1899, making a total gain of 244,093 acres, or 709%.

THERE seems to be quite a rush for agricultural education in the older States. It is reported that the Michigan agricultural students are sleeping in tents because of the lack of accessible accommodations, and several houses are being built to accommodate them. At the Massachusetts College there are fity-two more entering students than in any former year. At the University of California there are more students in the full course of agriculture than formerly, but not such a rush as at the East.

SO WE have some of the latest fashions in breeds. Mrs. E. W. Coil, who is traveling in the East, purchased two calves of the Brown Swiss breed at the State Fair recently held at St. Paul, Minn., and shipped them to Woodland by express. Some idea may be formed of the value of these calves when it is known that the express charges amounted to $129.50.

THE DAIRY.

Dairy Facts and Opinions.

We have received a copy of a neat little brochure entitled "Keeping Cows for Profit," just published by the De Laval Separator Co. of New York. It belongs to the better class of advertising literature, in that its style is artistic and its matter of general interest. We shall make a few extracts.

Dairy Figures.—In 1898 the dairy products of the United States were $500,000,000; there are some 17,000,000 milch cows in the United States; an annual consumption of 1,750,000,000 gallons of milk, 1,500,000,000 pounds of butter and 300,000,000 pounds of cheese. In 1889 prices of all dairying products, especially butter, were considerably higher than for several years past.

The average United States yield of milk per cow is less than 4000 pounds a year and only about 130 pounds of butter; while, to be profitable, the milk yield should be from 5000 to 6000 pounds, and the butter production never under 200 pounds. In this connection it is authoritatively stated that fully one-half of the butter produced in farm butter making, by the practice of the older dairying methods, is made and marketed at an actual loss to the maker.

Dairy Opportunity.—It should not be assumed that dairying is being overdone and soon likely to become unprofitable. The contrary is the case. The home consumption of dairy products, particularly with greater industrial prosperity, is largely increasing from year to year. The European markets for these American products are only now being fairly opened up. The exports, which are yet small, will within a few years amount to one-third of the total production, not only affording a sufficient market, but insuring the maintenance of prices. Dairying communities are everywhere among the most prosperous, intelligent and progressive in the country.

Business Methods.—Modern dairy farming is just as much a business as any other commercial or manufacturing undertaking. It affords the same opportunities. In a practical sense, it is a manufacturing business. The land, the feed and the degree of care used are the dairy farmer's raw materials. The cow, the cream separator, churn, butter worker, cans, coolers and other utensils are his tools and machinery. The sale of the milk, cream or butter is the marketing of his product. The prosperity of his business is largely of his own making, just as is that of any other.

The tremendous advance in dairying practice within the past fifteen years has so revolutionized dairy methods about every five years during such period that it is necessary, in order to be profitable, that dairying keep apace with advanced conditions. Dairying upon the lines of fifteen years ago is now a losing occupation. Dairying upon the basis of five and ten years ago now does well to make ends meet. Profitable dairying of to-day must be up-to-date and be kept so.

Selecting Cows.—The selection of the practical dairy cow is largely a question of individual productiveness. This will be found to vary in every herd of every breed. In breeding it is an established maxim that "the bull is half the herd." The bull should always be pure-bred and selected from a family from which the cows are of established dairy excellence.

Creameries.—The success of the creamery business, like that of any other, depends on good management. The creamery patron must understand that this concerns him, since he is not going to receive more for his milk than the creamery management makes out of it in its conversion into butter and marketing.

It is undoubtedly a fact that any one practicing dairying to-day, on however big or little scale, by the employment of one of the older gravity methods of cream raising without the help of ice or cold water, is doing so at so great a loss in skimming at all times, and in quality of product a good part of the time, that profit is simply impossible. Still, thousands are blindly pursuing such a system.

Hardly any point is of greater importance in successful dairy butter making than marketing the product in businesslike manner. This naturally begins with the packing of it. Appearance counts for a great deal in marketing butter, as in everything else.

Skim Milk.—One of the most interesting chapters is that devoted to skim milk, of which the use of the centrifugal cream separator has made a new by-product in dairying, with a much wider field of usefulness than was ever thought of or possible in the practice of gravity setting. We find many ways in which skim milk is being used profitably, and that for some purposes it is as nutritive and useful as the whole milk itself. This is mainly due to its freshness and sweetness in centrifugal separation, since in gravity setting the bacterial growth in skim milk develops rapidly, and the milk sugar, which is an extremely nutritious ingredient in its natural state, changes into an acid which is harmful rather than beneficial to both the animal and human stomach.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

TARIFF ON EMPTY BOXES.—San Leandro *Standard*: The Southern Pacific Company has issued an order that on and after Octoher 15th there should he a tariff collected for returned fruit and vegetahle hoxes. For years the company has heen carrying the boxes free, hut growers have not been pleased with the arrangement, as the company was not responsihle for hoxes stolen or carried to other stations. In this valley the change will meet with general approval, as the compauy will now be responslhie for the hoxes. The charge on returned hoxes is to he 15% of the rate to San Francisco, which is 7 cents per 100 pounds.

Butte.

FIRST GRAPE FRUIT.—Oroville *Register*, Oct. 26: Joe Saccone shipped yesterday to San Francisco three hoxes of grape fruit. Octoher 25th ls an early day for shipping any of the citrus fruits.

Colusa.

LARGE GRAIN HARVESTS.—In answer to postal cards sent out hy the *Sun* to ascertain the numher of acres sown and the amount of wheat and harley in sacks ohtalned from the same in Colusa county this year, an interesting tahle was puhlished. The largest yield of wheat was that on the Stovall-Wilcoxson ranch, where 47,500 sacks were harvested from 5000 acres and 9000 sacks of barley from 900 acres. The Boggs estate produced 36,000 sacks of wheat on 4900 acres and 9600 sacks of harley on 800 acres. J. C. Campbell reports 40,030 sacks of wheat from 4000 acres and 3370 sacks of harley from 300 acres. J. C. Frazier, who farms tule lands, gives his crop of wheat on 3000 acres at 45,000 sacks, while 2000 acres yielded 70,000 sacks of harley.

ALMOND CROP.—*Sun*, Oct. 28: Alfred Newland has marketed his almond crop. He has ahout forty acres, or 5000 trees. About 3000 of them were set out six years ago last spring and the others are twenty-seven years old. He gathered 552 sacks of 108 pounds each, making 59,616 pounds, which he sold for 9 cents a pound, and he had then 1500 pounds of pltted almonds, for which he got 20 cents a pound, or $300, making the total $5685.44. He employed twenty-seven men two months, which covered practically the cost. We dld not get his estimate of the entire cost, but it could not have been more than $2000.

Fresno.

HEAVY CORN HARVEST.—Sanger *Herald*, Oct. 28: The corn harvest is in full swing in Kings River hottom, and the crihs are heing taxed to their utmost capacity to hold it all. We learn that Thomas Bullis has gathered as high as sixty hushels of corn to the acre this season.

Glenn.

EXPOSED GRAIN.—Willows *Journal*, Oct. 27: The hoatmen estimate that there are along the whole length of the river on both sides hetween 70,000 and 100,000 sacks of grain exposed to the rain. This is less than had heen supposed. The hottom sacks suffer. Much of the grain was plied on the ground, hut the hulk of it had something under it. The damage, therefore, could not he estimated at more than one sack in twenty, so that at the very most there are not over 5000 sacks spoiled for shipping. This, distributed from Tehama to Knight's Landing, is not a great loss.

Humboldt.

PRUNE CROP.—Eureka *Standard*, Oct. 25: The Southern Humboldt Fruit Company, whose orchards are in the Blockshurg section, will market this year's crop of prunes as it came from the drier. Mr. L. Hull of Garberville will box his own crop and a large quantity additional, which has heen purchased from neighborhood growers and handled hy himself. In the neighhorhood of Phillipsville the crop was large and a great portion of it will he sent to market in hoxes. The sundried output of several tons at the Myers ranch, which went through the usual preparation process, was a very fine one.

Lassen.

HEAVY YIELD OF POTATOES.—Lassen *Advocate*, Oct. 26: Last spring, when potatoes were scarce in this market, Sol. Nathan imported some from Reno. From these potatoes William Dow selected a large, fine-looking tuher and planted it, after cutting into six pieces, in four hills. Last week he dug his potatoes and the yield from these four hills filled half a sack and weighed fifty-eight pounds. There were very few small potatoes in the lot, and individual specimens weighed from one to three pounds.

Monterey.

NEW GROWTH OF GRASS.—Monterey, Oct. 28: The heavy rains during the past month have brought out a phenomenal growth of new grass on the stock ranges in this county, and have thus assured an abundance of winter feed for stock. Vegetahles have also heen greatly benefited hy the early rains, and ranchers and stockmen hereahouts are anticipating a very prosperous year.

Napa.

FLAX THRESHING.—Napa *Register*, Oct. 27: Briggs' crew has threshed the flax crop grown by John Ames. The yield from five acres was eighty-eight sacks of seed. This is Mr. Ames' first experience as a flax grower, and he is pleased with the experiment.

GRAPE CRUSHING.—*Register*, Oct. 27: The Migliavacca Wine Co. are still crushing grapes. Ahout 2500 tons have heen handled so far this season, where in 1898 not more than 1700 tons were taken hy this firm. The grapes are mostly Zinfandei. If the weather is good, crushing will conclude at the end of another week. For two weeks past two shifts of men have been employed and wine making has been going on day and night. Most of the grapes have come from Sonoma county. The ruling rate paid was $17 per ton delivered at shipping station. Last year $12 per ton was paid.

Orange.

CANNING CONTINUES. — Anaheim *Gazette*, Oct. 26: The cannery's output is in the neighborhood of 600,000 cans to date, and the force is actively engaged with the tomato crop. The continuance of the canning season will depend upon the weather. If it should turn cold, the season will practically he over. There are many green tomatoes still in the field.

San Bernardino.

OFFICERS ELECTED.—Redlands *Citrograph*, Oct. 28: The Rialto Lemon Growers' Association elected the following officers: H. M. Van Frank, president; L. W. Coleman, vice-president; H. D. Sibley, secretary; E. A. Bemis, H. M. Van Frank, J. W. Craig, O. P. Kingman, W. S. Farmer, L. W. Coleman and H. D. Sibley, directors. The capital stock is $5000.

ORANGE PROSPECTS.—*Times-Index*, Oct. 27: Oranges will soon hegin to "color" in earnest. The crop is larger than expected, and, with a few exceptions, the fruit is of good size and quality. There are a few orchards in which the oranges show the effects of the drouth; but, taken as a whole, the crop is an excellent one and will yield good results.

HORTICULTURAL CLUB MEETING.—Redlands *Citrograph*, Oct. 28: Highland Horticultural Cluh has resumed its sessions. E. J. Yokam was re-elected president and M. H. Evans secretary. S. H. Barrett of East Highland made the principal address upon orange growing, packing and marketing. The programme committee of the cluh consists of C. L. Frazer, S. G. Lamh and Mrs. Edna Wilmot.

SUGAR CAMPAIGN.—Chino *Champion*, Oct. 27: The sugar campaign at the factory here is almost completed. The management informs us that the last heets will he sliced ahout Sunday. This will end the most successful campaign the factory has ever had and a longer campaign than was expected. The almost perfect operation of the machinery and different processes have permitted continuous work from first to last without any shutdown. During the past week the work has heen steady, hut the quality of heets has not heen so high as earlier in the season. The following is the record of the factory for the week ending Wednesday:

	Tons Sliced.	Sugar, Per ct.	Sugar, Bags.
Thursday	788	14.0	2,415
Friday	773	14.6	2,365
Saturday	811	14.5	2,080
Sunday	679	14.6	2.545
Monday	823	15.0	2,390
Tuesday	735	15.7	2,475
Wednesday	710	15.3	2,410

San Luis Obispo.

AGAIN THRESHING. — *Tribune*, Oct. 27: It will require a heavier storm than that of last Saturday to put an end to threshing. There has heen considerahle damage done. The grain will he discolored some, and the quality will be impaired, hut it will he marketahle, and the quantity will not he lessened to as great an extent as some predicted. Yesterday morning threshing outfits resumed operations. Wet though the grain has heen, it shows up splendidly. Over Oceano-ward, where the preciptation was greatest, Sim's threshing crew was one of the first to return to work, and before the day was done had threshed 600 sacks. Grain has done well around Arroyo Grande. P. Moore says that the average yield per acre would he over fifty-five sacks. On hill land at his homestead the yield averaged about thirty-five sacks per acre. The yield will aggregate something like 150,000 sacks.

Santa Clara.

SEED INDUSTRY.—San Jose *Mercury*, Oct. 27: The C. C. Morse Seed Company will set out in the neighhorhood of 50,000 sacks of onions, and various other varieties of seeds will he set out later. At the Kimherlin, Parker and Agnew seed ranches many thousands of sacks of onions are being planted for seed. W. J. Fosgate, who is making his debut in the husiness, is engaged in setting out nearly 10,000 sacks of onions. His principal industry for the season will he the raising of sugar heets. Ahout forty acres will be set out in these. At the present a large amount of the recent crop seeds is heing forwarded to the Eastern market.

FRUIT UNION.—*Mercury*, Oct 27: Articles of partnership of the Santa Clara County Fruit Union were filed yesterday. The partnership is for the purpose of huying and selling fruit, and already warehouses have heen estahlished in the city. The following are the signatures to the partnership articles: S. R. Johnson, Jacoh Miller, W. P. Cragin, J. R. Johns, J. B. Metzger, C. Joachims, R. P. Mantz, Edwin Wilcox, A. L. Sturtevant, Charles Miller, D. H. Webster, Rufus Howes, Philip Hayes, William Hagerty, J. I. Burnham, Morris Skinner, R. E. Collins, William Hunter, Reuhen Yarnall, R. Mauvais, J. W. Blauer, Aaron Latshow, B. F. Entrikin, I. I. Metger, F. A. Schoof, L. G. Blackford, Lloyd Childs, Fred Ellis, P. H. Bekkuwn and B. B. Bailey. W. A. Coulter is attorney for the union.

Solano.

BEET SUGAR OPERATIONS CEASE.—Dixon *Tribune*, Oct. 27: Supt. E. A. Sammons shipped the last carload of beets from this point this week and sent the tools to the factory at Crockett. The carload of heets was the last of ahout 500 tons, which represents the product of this locality for this season. The company has heen to considerahle expense this year and claim that the returns do not justify a continuance of operations another year. Some of the percentages were as high as 25.

NEW IRRIGATING PLANT.—Dixon *Tribune*, Oct. 27: T. T. Eihe has just completed the boring of a fourteen-inch well for irrigation purposes. The well is hored to a depth of seventy feet and furnishes an ahundance of water. Mr. Eihe recently purchased a 4 H. P. gasoline engine with which he has heen driving a three-inch centrifugal pump. The pump driven to its greatest capacity of 13,500 gallons of water per hour failed to lower the water in the well helow the twenty-six foot mark, where it stood during the entire test. The trial being made at the driest time of the year, and after two years of scanty rainfall, demonstrates that irrigation may be successfully carried on in this section. Mr. Eihe has ordered a new four-inch pump of the same type as the one with which he tested the well, and will irrigate ahout ten acres of alfalfa next year. He is preparing the land for seedlng this week, and is one of the first farmers of this locality to enter into the plan of raising alfalfa for dairy feeding purposes.

BEET SUGAR PROSPECTS BRIGHT.—Vacaville *Reporter*, Oct. 28: Despite rather unsuccessful results of sugar beet culture this year, attrihutahle to the dry season, the California & Hawaiian Sugar Refining Co. is not discouraged. On Tuesday, Mr. Herhig, representative of the ahove-named company, was in Suisun and leased several tracts of land for the culture of heets during the coming season. The company intends to lease ahout 3000 acres in the vicinity of Suisun and Cordelia. Mr. Herhig also secured the following leases on hehalf of the company: R. D. Robhins, 400 acres; J. C. Peyton, 118 acres; B. F. Way, 90 acres; G. Tomassini, 500 acres. In the vicinity of Cordelia the company has leased the following tracts of land for two years: Page tract, 800 acres; P. Smith, 105 acres; McMaster, 150 acres; H. Dittimer, 36 acres.

Sonoma.

PROFITABLE WALNUT TREE.—Santa Rosa *Republican*, Oct. 26: In the grounds surrounding the Hood residence stands an old and magnificent walnut tree, with a history dating back many years. The tree was planted hy T. B. Hood in 1864. It was planted as an experiment, and after ahout eight years it hegan to bear prolifically. It is of the English variety. This season alone $23 was realized from the sale of the nuts, apart from an ahundance reserved for family use. The tree has not yielded less than $6 worth of nuts in any season. At the hase it is more than six feet in circumference; and at the fork, where two large limhs hranch out, its circumference is ahout nine feet. Mr. Hood is extremely proud of the tree and of its record, and thinks that walnut growing should prove a paying industry in this county.

Stanislaus.

CREAMERY BUSINESS.—Modesto *Herald*, Oct. 26: The hutter from the two creameries near Newman yielded 25 cents a pound net to the patrons for Septemher—more, indeed, for the patrons received $9145.17 for 35,708 pounds of hutter. The skimmed milk, which is returned to the patrons, comprises another material source of revenue. Indeed, this item of revenue meets, if it does not exceed, the cost of milking.

EXPERIMENT WITH SWEET POTATOES.—*Herald*, Oct. 26: By way of experiment Mr. Gray set out twenty acres to sweet potatoes, irrigating hy pumps and wells. We learn that the crop is heing gathered and that competent experts say that twelve acres of it will average 200 sacks to the acre, and the halance a good yield. The potatoes present a splendid appearance. As sweet potatoes hring from 90 cents to $1.25 per hundredweight, and can he raised at a profit for 50 cents per 100 pounds, the success of Mr. Gray's experiment, in a financial way, is apparent.

Sutter.

AT THE CANNERY.—Yuha City *Farmer*, Oct. 27: The canning of grapes and tomatoes has heen finished at the Sutter cannery and raisin stemming and packing ahout over with. In a few weeks the work on olives will hegin, and a large amount will be pickled. The pickling of ripe olives is increasing each year. The olive mill will also he put in operation and the usual amount of oil made.

Tehama.

SHEEP SALE.—Red Bluff *Cause*, Oct. 28: E. H. Ward sold 700 ewes to a San Francisco buyer last week at $3.75 per head. This is the highest price that mutton sheep have sold for here.

Tulare.

EARLY ORANGE SHIPMENTS.—Visalia, Oct. 29: The first car of this season's oranges was shipped to-day. The season is earlier than usual. To-morrow the Porterville growers will ship a car of the "Forget-me-not" hrand, two cars of the "Sunflower" brand and two cars of the "Lily" hrand, all Washington navels. To-morrow two cars of fancy lemons will be shipped out of Lindsay and Lemon Cove. These eight cars constitute the largest shipment of a new crop of citrus fruit ever shipped from California in the month of Octoher.

Ventura.

APRICOT PIT INDUSTRY.—Santa Paula *Chronicle*: A machine for cracking and separating apricot seeds is in operation in Piru. Mr. Findley is in charge with a force of six men and a boy to drive the horses that furnish the power. The cracked pits fall into a vat of salt water which is strong enough to float the meats. The shells are carried off at the rear by a simple contrivance of hrushes on an endless chain, the meats meanwhile being carried into a vat of clear water that floats the imperfect ones, which are skimmed off, and the good ones are dumped onto trays and spread out on the ground to dry. After this they are sorted hy women and children, when they are put into a fanning mill for final cleaning, and are ready to sack.

Yolo.

EARLY VS. LATE SOWING.—Winters *Express*, Oct. 27: Driving across the country this week, we found many farmers already sowing summer-fallow and others getting ready. There is quite a difference of opinion among farmers as to the henefits of early sowing, some of them contending that nothing is gained hy it. They say that, while the early rains may put the soil in good condition, they also start the weeds and that, hy waiting a few weeks, they can he turned under, thus giving the grain a clear field.

LATE IRRIGATION.—*Express*, Oct. 27: As an evidence of the heneficial effects of late irrigation, P. H. Johnson's orchard is a clincher. The trees look as green and thrifty as if it were early spring, and an examination shows a heavy limb growth on which are many times more fruit huds than could ever he allowed to mature. If indications count for anything, that orchard will hear a tremendous crop next year. Contrasted with orchards in the same vicinity, it is not hard to see the tremendous start this one has for next year's business. Mr. Johnson has a twelve-foot well in which his pump—a six-inch centrifugal—is sunk ahout twenty feet, and within six feet of the water. He uses a 25 H. P. wood-hurning engine which throws an eight-inch stream into his delivery ditches. The hored well at the hottom of the dug hole is sixteen inches in diameter and furnishes plenty of water.

ARIZONA.

AGRICULTURAL ASSOCIATION MEETING.—Phœnix *Farmer*, Oct. 27: The fifth annual meeting of the Arizona Agricultural Association, held last week, was pronounced the most successful meeting of the association yet held. For the ensuing year the following officers were elected: President, Prof. R. H. Forhes, Director Experiment Station, Tucson; Vice-President, B. A. Fowler, Glendale; Secretary-Treasurer, W. G. Burns, re-elected. Executive committee, A. J. McClatchie, chairman; J. W. Woolf, Tempe; Chase L. Purdy, Alhamhra; George Schornick, Mesa; F. A. Hough, Tempe.

OREGON.

HOW GROWERS ORGANIZE.—Portland *Oregonian*, Oct. 26: Two hundred hop growers met at Woodhurn yesterday and organized the Oregon Hop Growers' Association. The power is almost entirely placed in the hands of a hoard of directors, consisting of thirteen, which were named hy the convention as follows: George Hutchcroft, North Yamhill; H. B. Miller, Grant's Pass; M. L. Jones, Brooks; J. W. Hill, Portland; James Winstanley, Salem; G. B. Hovenden, Hubhard; William Smead, Waterville; W. E. Iler, H. L. Bents, F. Feller, E. M. Croisen, Butteville; W. W. Cotton, Portland; O. L. Barher, Woodhurn. Following are the officers: President, M. L. Jones, of Brooks; vice-president, J. W. Hill, of Portland; secretary, H. L. Bentz, of Butteville; treasurer, Francis Feller, of Butteville. The constitution provides that "stockholders shall sign a contract giving full title to their total output of hops, and, upon delivery, they shall receive from the secretary a receipt for the hops turned over. A grading committee, which is to pass upon the merits of the products, is provided. Protests may be had in five days, and if the grower shall not he satisfied, he shall so notify the secretary, and the grading of the hops shall be referred to a hoard of arhitration consisting of three. The hoard of directors shall appoint an executive committee, of which the president is ex-officio member, whose duties it shall be to fix and determine the minimum prices at which various grades of hops helonging to the association shall he sold. This hoard is to determine the terms of sale and delivery, and all other matters pertaining to the selling, grading and disposal of the hops belonging to the association. Any hop grower, owner or renter of a hopyard shall he eligible to membership, and shall suhscribe not less than one share of the capital stock, hut no one shall be allowed to suhscrihe more than $25 per acre for each acre he has; and if he desires to dispose of his shares of stock, the association shall have the refusal of purchase." The capital stock is placed at $8000, the value of each share heing $2.50, most of which has heen suhscrihed.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars. **THE LAWRENCE-WILLIAMS CO., Cleveland O.**

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THE HOME CIRCLE.

The Redwood.

Have you seen the towering redwood,
With its ragged woodland frieze,
Standing stalwart on the mountain,
High above all other trees;
Reaching upward its proud spire
To a sunny arch of blue,
In its glorious strength majestic—
In its grandeur ever new!

Look upon the manzanita,
Laurel, hazel, oak, madrone;
The Sequoia gigantea
Stands apart, superb—alone,
Till the common adversary
Fierce, with burning breath aglow,
Comes with searing fiery lashings—
Comes and lays the monarch low.

Think, O men, of farm and commerce,
Ere the thinking be in vain
Of the friend that forms your shelter;
Of the friend that brings you rain.

—A. C. G. in San Jose Mercury.

Early Autumn.

The world puts on its robes of glory now,
The very flowers are tinged with deeper dyes,
The waves are bluer, and the angels pitch
Their shining tents along the sunset skies.

The distant hills are crowned with purple mist,
The days are mellow and the long, calm nights
To wandering eyes, like weird magicians, show
The shifting splendors of the northern nights.

The generous earth spreads out her fruitful store,
And all the fields are decked with ripened sheaves,
While in the woods, at Autumn's rustling step,
The maples blush through all their trembling leaves. —Albert Leighton.

Kenyon Cox's Gospel of Art.

Work thou for pleasure; paint or sing or crave
The thing thou lovest, though the body starve.

Who works for glory misses oft the goal;
Who works for money coins his very soul.

Work for the work's sake, then, and it may be
That these things shall be added unto thee.

November.

There is no color in the world,
No lovely tint on hill or plain;
The summer's golden sails are furled,
And sadly falls the November rain.

—Celia Thaxter.

The Pride of Two.

Characters—Donald Frampton, Mrs. Frampton, Miss Phyllis Gay, a Maid.

Scene—The Framptons' Flat, London. Time—4 P. M.

Mrs. F. and Miss G. discovered seated in front fireplace center. Small wicker table, with tea things, beside Mrs. F., right center, divan, cushions, etc. Flowers on table, riding crop, etc., etc.

Mrs. F. (after a pause)—But, Phyl, you must marry him. He's made for you. He has all the qualities that go to make the perfect husband, and he adores you!

Phyllis—And I only like him. I am a poor specimen of the girl of the period, I am. I ought to be content to like him. This desire for love is old fashioned, absurd.

Mrs. F. (thoughtfully)—No, of course—I couldn't have married without loving, myself; but Don and I are old fashioned, anyway.

Phyllis (starting slightly)—Yes, I suppose so.

Mrs. F. (after another long pause, gently)—I often think, Phyl, that you have had a love affair that has hurt you and made you cynical. I don't want to force your confidence, dear, but I am your old friend, and if it—if you—

Phyllis (evasively) — No—no— I— (breaks off abruptly).

Mrs. F.—I wish you could, Phyl dear. It's wonderful—wonderful! You change so. (Softly, and talking very earnestly). Before I knew Don I was just a light, happy, careless girl, and I never thought of life as a serious thing. I didn't know how to take myself seriously. And then he came into it, and everything took on a new aspect for me. I began to trust. And with that came a wonderful feeling of safeguard. I couldn't do without it now. It means too much to me.

Phyllis (absently)—Yes, I suppose so.

Mrs. F.—Girls think they live. They can't imagine how different their lives become the day they meet the man they love. Before they are narrow, and afterward their horizon broadens out, and all that they saw before with shut eyes becomes clear. They get more forgiving, they are better able to condone faults they looked upon as crimes before.

Phyllis (slowly and deliberately)—Suppose a woman had cared for your husband once and did still—couldn't help it, and knew it—could you forgive that?

Mrs. F. (hesitatingly)—Even that I think I could forgive. I don't know; I should pity her.

(Phyllis gets up and moves across the room, touching the odds and ends on the mantel shelf aimlessly and nervously. Places one foot on the fender and leans on mantel board; then turns slowly).

Phyllis (as though contemning something in her mind)—It's good of you to care about me, Edith! I—you were right—I did once care for some one.

Mrs. F. (eagerly)—But, now we must do something to make it come right. I'll help you—

Phyllis (laughing hysterically)—You can't, you know. It's too late. He's married, and I'm going to be—to Sir Herbert Cray, I suppose. (With a return to her old manner). Forget about this, Edith. I am nervous to-day, and foolish. I think I'll go home.

Mrs. F.—No, no, no; wait. Don will be disappointed not to have seen you. Stay a moment longer. He'll be in every minute now. (Goes over to mantel, and puts her arm around Phyllis). Poor Phyl! Poor Phyl! I'm so sorry.

Phyllis (laughing)—Don't be sorry, dear. It's not worth it. I'm, happily, a modern woman, with no heart to speak of and no conscience, and sentiment should have no part or place in my life. I have it in my power to marry one of the most eligible men of the season. What more can I ask? I must forget my fancy for a man who did not care much for me, or he wouldn't have married another woman—that's certain.

Mrs. F.—Poor Phyl! Poor Phyl!

Phyllis (fiercely)—No! Don't pity me. I won't have your pity. I've told you I don't need or deserve it. I am very happy. My gown is a veritable creation—what more—

Mrs. F. (interrupting)—Don't talk like that. It's not you—it's—something strained. Don't do it. Why do you do it?

Phyllis (wearily)—Why do I do it? I don't know. I suppose it's my temperament. It's a very different one to yours, you know. I couldn't forgive a woman, for instance, who had ever in any way come between me and the man I loved.

Mrs. F. (thoughtfully)—Ah! my dear, you'll come to that. Like all young girls, you are hard now.

Phyllis — Yes — I'm hard (laughs). That's what Sir Herbert says—but I've been made hard. (Turns her head away from Mrs. F., and looks into fireplace thoughtfully with a curious expression in her eyes. Then looks up suddenly). Suppose you had been terribly—what you call in love with a man, and he with you. Suppose you had been engaged. (Mrs. F. looks at her sympathetically) Yes, you see—I was the girl. I was younger than I am now, and I knew of the world and of men, and the sort of things men did, and—and I cared very much. We had been engaged four months, and a very good friend of his and of mine, a man, was with us a great deal at the time. He happened to be such a good friend of mine that he wouldn't let me marry a man not worthy of me, even though that man happened to be his best friend. He told me and proved to me certain things, and I wrote to the man I cared for with my whole soul and life, and told him that I didn't care for him at all. It was my only way of saving my pride, but it broke—no, not broke, froze my heart (smiles faintly). Not so with him. He never wrote, and I never heard from him at all till I got his wedding cards (turns to Mrs. F. again). That's all of the story there is. Not much of a story, is it? And it's so like everyone's.

Mrs. P.—And you never heard of him again?

Phyllis—No, only indirectly (smiles and comes over to were Mrs. F. is sitting and takes her hands). Don't look so serious, Edith, I have opened a closed book for you, and read you a page, or most of a page. I am going to close it again for good, though, and marry Sir Herbert. I was very young then and foolish, and sometime I feel that I have changed so much that now perhaps—I would not—care—

Mrs. F.—Poor Phyl! (brushes her handkerchief over her eyes).

Phyllis (kneels down on the floor)—Why—why, don't cry; for God's sake don't cry for me, Edith. I can't stand it (chokingly).

Mrs. F.—I was just thinking how selfish I am in my great happiness. The agony—the pain of others has never reached me. I can't conceive how I could accept misery.

Phyllis (bitterly)—And yet misery overtakes us all (rising). How tragic we are getting; we might almost be acting (laughs forcedly). Now, perhaps you will let me be. I have bared my breast for you, more than I have ever done for anyone, but don't ask me to tell you any more—just let me be hard and cynical when I want to, and put up with me, for at least I care very much for you (softly), and want your friendship.

Mrs. F. (tenderly)—Dear, that you will always have.

Phyllis—Always?

(A maid enters with a card, which she hands to Mrs. F.)

The Maid—The lady's waiting in the library ma'am.

Mrs. F. (looking at card in her hand)—Mrs. Gordon. How tiresome! I must see her a minute. Wait here for me, Phyllis. (Exit Mrs. F. and maid. Phyllis leans back in armchair, musingly).

Phyllis—Always—my friend. I wonder if she would really if she knew. She cannot be anything but human. (Gets up and moves around room restlessly; picks up riding crop from table and holds it in her hand). What would she say if she knew how often before I have held this in my hands? What would she say if she knew how often it has been kissed by me because it was his? What has made me want to see him again? Ah, I suppose there will be keen pleasure in seeing his start of surprise. He has never mentioned my name, so he doesn't know that Edith and I were schoolmates six years ago. Heigho! I wonder—(stops and listens). How my heart beats! Foolish! He has probably grown fat and bald, and he will say: "Ah, Miss Gay," and be commonplace. I shall thank my stars for escaping, and begin to appreciate Sir Herbert with £20,000 a year. (Goes to glass, fiercely). Phyllis Gay, there are tears in your eyes. Positively, I'm ashamed! Besides, he didn't care for you; and now—(Starts again. Frampton is heard whistling outside. Phyllis shrinks into the corner and waits, her hand pressed against her heart).

(Enter Frampton. He is a man of about thirty, with an intelligent head, carelessly but well dressed, frock coat, top hat, etc. He advances into room slowly).

Frampton—Ah!—pardon—er—good God, Phyllis!

Phyllis (looks at him, pale and smiling)—Yes.

Frampton—I don't understand.

Phyllis—No. I knew Edith before she was married, and I came to see her. I knew you, and I thought I would like to stay and see you.

Frampton—To see how I stood having my heart broken (bitterly). The place has healed.

Phyllis (smiling with faint contempt)—It was a very slight wound.

Frampton (walks about room, savagely ignoring her)—I am like a fly which has had its wings picked off. I died a horrible death, and reincarnation came. I pray that you will leave me my new wings now.

Phyllis (coldly)—I did not fear for your heart. It was a large place with many compartments, the smallest of which I filled for a time.

Frampton (comes up and stands before her with a strained expression in his eyes and speaking roughly)—Look here. You shall explain to me what you mean now. I suffered the way a man suffers—the way a woman never knows, and I scorned explanations. I swore not to ask you what you meant by that last letter. It was too cruel, and I saw how I had escaped; but now—you shall not tell me about my heart. I swear you shan't.

Phyllis (still coldly)—I will not discuss it. Laurence Hale will tell you what I mean if you like, and kindly remember, also, that you have no right to tell me what I shall or shall not do.

Frampton (speaking calmly)—I stand corrected, but I ask you to tell me what Hale told you. Will you?

Phyllis (speaking quickly and hysterically)—Mr. Hale told me the truth. He told me of things in your life that should make you ashamed; but you are not ashamed. You stand there calmly and try to appear virtuous, and to make out that I—

Frampton (brokenly)—Phyllis, there has been some terrible, terrible mistake. Hale lied to you about me. Hale loved you himself.

(After a long pause Phyllis raises her head slowly, very pale, and looks straight at Frampton. He steps forward as if to take her hand but she waves him off and shakes her head dumbly).

Phyllis (repeating)—Hale lied to me. Then it was all a mistake—and it's too late!

Frampton (passionately)—No! no! no! It's not too late. Don't you see, Phyllis, nothing can matter now? Nothing matters. You love me, I love you; that's all. There must be no barrier; I have always only loved you.

Phyllis (backs against wall, speaking in a low voice)—You are quite, quite mad. No, no; stop. Enough has been wrecked. There are two lives broken. We have received our knock, and we are painted and mended and seaworthy again. No other life must be hurt. My dull aching pain is part of me now (smiles faintly). I could not do without it, I fear, and you do not mind yours! I am going to marry Sir Herbert Cray—and I am going to be very happy.

Frampton—Oh! for God's sake, don't—don't—

Phyllis (weakly)—I have made a mistake, and I am going away—and I have been false to—to your wife—

(Frampton stops suddenly in his promenade and stares stupidly at her).

Frampton—But—my wife—I haven't got—

Phyllis—hush! here she come!

(Enter Mrs. Frampton).

Mrs. F. (to Phyllis)—My dear, I am so sorry to have been so long, but I see you and Donald have made friends without waiting to be formally introduced. Phyllis, this in my husband's cousin Mr. Donald Frampton, and, Don, this is Miss Phyllis Gay, an old schoolmate of mine. You know, Phyl, that both my husband and his cousin have same name. Donald's a family name with the Framptons. I'm sorry my Don hasn't come in. I wanted you to know him so much, he's such a dear, but—

(She looks strangely from Phyllis to Frampton. Phyllis during the first part of the speech had raised her eyes to Frampton's face with overpowering gladness in them. He comes over slowly to where she is standing, and takes both her hands in his).

Curtain.

—Black and White.

Son—"Say, pa, how do they catch fools?

The Father (glancing significantly at his better half)—"With bows and ribbons and hats and dresses, my son."

Mother (pensively)—Yes, I never knew a woman to catch a husband yet without using those accessories.

The King of Siam.

Written for the PACIFIC RURAL PRESS.

"The king of Siam," writes Mrs. Mariana Chapman, "has forty wives, and in the harem are 3000 women who never go out."

When Mrs. Jessie Ackerman, in a missionary spirit, urged upon him the benefit of education for them, he replied: "You know, with education there always come culture and refinement; if I educated my women, I should educate them into a state of discontent, for they would want many things which it is impossible for them to have."

That is a perfectly logical and true statement. Education will, no doubt, increase the wants and desires of our Siamese sisters, but it will also make them resourceful and give them greater ability to gratify their wants. The education of Oriental women means a revolution in the habits of thought, the attitude of mind of the male inhabitants—an almost complete change in the manners and customs of those peoples. But is it not true that the civilization of a country is rated by its treatment of its women—the greater the civilization the greater the equality between the sexes?

Measured by this standard, has the United States reached high-water mark yet as a nation?

Our American men are just a little bit like the king of Siam—afraid to give us the ballot lest we want many things (offices) which it is not desirable for us to have, according to their point of view. This fear that women will neglect their duties and rush into office as soon as they have the right of suffrage seems to be the bete noir of many good and sensible men. We believe the fear is groundless—that the average woman has as much good sense, and is as loyal to her business or home interests, as the average man, and that only those women who are qualified and have the time to give will allow themselves to be nominated for office; and, all things being equal, why should these not?

The Girl Who is Ever Welcome.

The welcome guest is the girl who, knowing the hour for breakfast, appears at the table at the proper time, does not keep others waiting, and does not get in the way by being down half an hour before the hostess appears.

The welcome guest is the girl who, if there are not many servants in the house, has sufficient energy to take care of her own room while she is visiting, and, if there are people whose duty it is, she makes that duty as light as possible for them by putting away her own belongings, and so necessitating no extra work.

She is the one who knows how to be pleasant to every member of the family, and who has tact enough to retire from a room when some special family affair is under discussion. She is the one who does not find children disagreeable, or the various pets of the household things to be dreaded. She is the one who, when her hostess is busy, can entertain herself with a book, a bit of sewing, or the writing of a letter.

She is the one who, when her friends come to see her, does not disarrange the household in which she is staying, that she may entertain them. She is the one who, having broken the bread and eaten the salt of her friend, has set before her lips a seal of silence, so that, when she goes from the house, she repeats nothing but the agreeable things she has seen. This is the welcome guest—the one to whom we say, "Good-bye" with regret, and to whom we call out "Welcome" from the lips and from the heart.

THE BORE—"I assure you, madam, that my dear friend here and I are two souls with but a single thought." The Lady—Indeed! And which of you has possession of the thought to-day?"

SELF-REVERENCE, self-knowledge, self-control. These three alone lead life to sovereign power.—Tennyson.

"True Blue."

Everyone has heard, and most made use of, the phrase "true blue," but everyone does not know that its first assumption was by the Covenanters in opposition to the scarlet badge of Charles I., and hence it was taken by the troops of Leslie and Montrose in 1639. The adoption of the color was one of those religious pedantries in which the Covenanters affected a Pharisaical observance of the scriptural letter and the usages of the Hebrews, and thus, as they named their children Habakkuk Zerubabel, and their chapels Zion and Ebenezer, they decorated their persons with blue ribbons because the following precept was given in the law of Moses:—"Speak unto the children of Israel, and bid them that they make them fringes in the borders of their garments throughout their generations, and that they put upon the fringe of their borders a ribbon of blue."

A Wise Father.

"Charlie, dear," said the young mother, "I've decided on a name for baby. We will call her Imogen."

Papa was lost in thought for a few minutes. He did not like the name, but if he opposed it his wife would have her own way.

"That's nice," said he, presently. "My first sweetheart was named Imogen, and she will take it as a compliment.

"We will call her Mary, after my mother," was the stern reply.—Collier's Weekly.

BE sure that every one of you has his place and vocation on this earth, and that it rests with himself to find it. Do not believe those who too lightly say, "Nothing succeeds like success." Effort—honest, manful, humble effort—succeeds by its reflected action, especially in youth, better than success, which, indeed, too easily and too early gained not seldom serves, like winning the throw of the dice, to blind and stupefy.—Gladstone.

MAKE sure that however good you may be, you have faults; that however dull you may be you can find out where they are, and that however slight they may be, you would better make some patient effort to get quit of them.—Ruskin.

DOMESTIC ECONOMY.

Starching and Ironing Shirts.

Applying the starch is an important part of the work. In using both hot and cold starch, the former is applied first and allowed to dry before the other is used. For the hot starch, take one teaspoonful of starch for each shirt, dissolve in a little cold water, pour on enough to make very thick when cooked, and apply hot. Rub in thoroughly, first on the right side, then on the wrong. Following this the shirt should be dried before using the cold starch. To make the cold starch ready for use, take one ounce borax, half ounce white laundry wax, one teacup water and one and a half teacups starch. Dissolve the borax and wax in warm water, let cool and add the starch. Keep in a dry place. For use, dissolve a teaspoonful in a little warm water, dip the starched portion of the shirt in this sufficient to wet thoroughly, roll tightly and iron in one hour. In ironing, first rub the iron with beeswax; lay a thin cloth between it and the linen. Remove and dampen a little, repeating several times. When perfectly dry polish with the edge of the iron.

What Is Good Meat?

Good, wholesome meat is neither of a pale pinkish nor of a deep purple tint. It has a marbled appearance, from the ramification of little veins or intercellular fat. The fat of the internal organs especially is firm, hard and suety, and is never wet, whereas that of diseased animals is often soft and watery. Good meat has but little odor, whereas diseased meat smells faint and cadaverous. Good meat bears cooking without much shrinking or losing much of its weight, but bad meat shrivels up and boils to pieces, this being due to the larger proportion of watery and gelatinous material and the absence of true muscular substance. Under the microscope the fiber should be clear and well-defined and free from infusorial animalcu'æ, while that of diseased meat is sodden as if it had been soaked in water; the transverse streaks are indistinct and wide apart, and animalculæ abound in it.—Sanitary Record.

Domestic Hints.

TOMATO SALAD.—Quickly scald and peel smooth ripe tomatoes, or peel without scalding, if possible. Chill, cut in halves or slices and serve with French dressing on lettuce, or with powdered sugar, salt and pepper; or cut out centers and fill with minced cucumbers and cover with mayonnaise.

HAMBURG STEAK.—Parboil several sliced onions till tender, then drain dry and cook till yellow in butter. Have a thick steak from the top of round or sirloin, or have meat run through a meat chopper, seasoned and made into a thick piece like whole steak. Broil over the coals or in a pan with onions. Season with salt, pepper and butter and cover with the fried onions. With chopped meat, mix some of the fried onions in the middle of the meat.

OYSTER PIE.—Melt two tablespoonfuls of butter in a saucepan and blend in one tablespoonful of flour; add one cupful of cream in which an egg yolk has been beaten and one-half cupful of strained oyster liquor. Season with salt, pepper and a teaspoonful of lemon juice. Add two heaping cupfuls of chopped oysters; fill into a deep pie-pan lined with puff paste, cover with paste (having a cross cut in the center to let out steam) and bake in a quick oven.

BROWN FRICASSEE.—Drain large oysters, and to the liquor add some dark, well-seasoned beef stock; cook ten minutes together and strain. In a spider melt some butter and let it slightly brown; then add half the quantity of flour as of butter, blend and brown, without burning, to a rich darkness; add the oysters, moving them about gently for a few seconds, then pour in enough of the strained sauce to make a sauce of medium consistency. Serve on small rounds of toast.

CHEESE PUDDING.—One cupful of bread crumbs, one cupful of milk, one cupful of grated cheese, one tablespoonful of butter, two eggs, one-quarter of a teaspoonful of salt, a dash of cayenne, one-half teaspoonful dry mustard and one saltspoonful of soda. Sift the mustard over the cheese, add the bread crumbs, salt and cayenne and mix. Turn into a greased dish. Dissolve the soda in the milk, add the beaten eggs and pour over the bread mixture. Bake half an hour in a moderate oven. The dish should be a shallow one so as to have as much browned surface as possible.

CHOCOLATE CAKE.—Beat two eggs, add two cupfuls of powdered sugar and beat hard for fifteen minutes; add one cupful of milk and two cupfuls of flour alternately, beating well, lastly one teaspoonful of vanilla and two scant teaspoonfuls of baking powder. Bake in three thick or four thin layers. For the filling scald one cupful of milk, add one-half of a cupful of sugar; mix together three tablespoonfuls of grated chocolate and one tablespoonful of cornstarch, moisten with two tablespoonfuls of cold milk, turn this into the hot milk and stir until thick and smooth. Simmer for five minutes, add one-half of a teaspoon of vanilla and spread between the cake layers.

"THIS 'Gates Ajar' design is a handsome one," said the tombstone man. "It is just what I want," said the widow. "He never shut a door in all our married life without being told."

Hints to Housekeepers.

Spinach that is left from dinner may be at once mixed with a French dressing, packed in small cups or moulds or in a bowl and put away. Next day turn it out on a bed of lettuce, add more French dressing and it is ready for the table.

An invigorating tonic bath is prepared by soaking several slices of lemon or limes in the bath water for an hour, then adding a handful of bran. Bath bags of oatmeal and orris, or of shaved soap and almond flour, are also pleasant additions to the bath.

Corn fritters at their best are a delicacy known only to those who can have their garden products from hand to mouth, as it were. Corn that has remained over night in boxes, barrels or storehouses, or has been carted about for hours under a broiling sun, has parted with the greater portion of its delicacy, and is dry and chippy.

For curried eggs, fry two thinly sliced onions in two tablespoonfuls of butter until golden brown, add one teaspoonful of curry powder, cook another minute, then stir in one pint of milk. Cover and simmer for fifteen minutes, thicken with one scant tablespoonful of cornstarch, dissolved in a little cold milk, and cook for five minutes longer. Add more salt and pepper, if needed, and six hard-boiled eggs, cut into slices; keep hot for ten minutes and serve with or without boiled rice.

Staining floors is a simple process, and the result is always gratifying to the good housekeeper. No preparation is needed except cleanliness. The boards must be absolutely free from any dust or grease. Some of the best quality of varnish stain should be purchased, also a broad, thin brush for applying. One board at a time should be stained, so that there may be no streaky appearance. One coat will be sufficient on boards that have been stained before, but upon new ones at least two will be required.

Everybody does not seem to know that if summer squash are young enough the rind and seeds do not need to be removed. Cook the squash in a cheesecloth bag if you do not use a steamer, so that the pieces (it has been cut in quarters) can be easily lifted and drained. Here one sighs again for the good old times when wooden trenchers abounded. Mrs. Lincoln says, "Press the water out with a plate." The writer has tried this with resultant burned hands and torn temper. If you have an assistant the hot squash can be twisted in a towel till it is dry. If you have to do it alone, do it any way your ingenuity suggests, only be sure to get the water out. Then season with salt, pepper and butter, heat again if necessary and serve.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 1, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	70 @70⅝	73¾@74¼
Thursday	70⅝@71⅛	74¾@74⅜
Friday	70¾@70¼	74⅜@74
Saturday	70¼@69⅞	73⅞@73½
Monday	69⅝@70	73¼@73⅝
Tuesday	70⅛@70½	73⅝@74⅛

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	5s 11½d	6s 1 d
Thursday	5s 11¼d	6s 0⅞d
Friday	5s 11½d	6s 1 d
Saturday	5s 11¼d	6s 0¾d
Monday	5s 11 d	6s 0½d
Tuesday	5s 11⅜d	6s 0⅞d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 10⅜@1 09⅝	1 16⅞@1 16½
Friday	1 09½@1 08⅝	1 16⅜@1 15⅞
Saturday	1 08¼@1 08⅜	1 15¼@1 15½
Monday	1 08½@1 08⅜	1 15½@1 15⅝
Tuesday	1 09⅛@1 08⅜	1 1⅝ @1 16¼
Wednesday	1 08¼@1 07⅞	1 15⅛@1 15

Wheat.

While weakness bas been the chief feature of the wheat market since last review, both here and abroad, tbere have been no very pronounced declines, eitber in speculative values or in tbe spot market. This, in the face of inadequate transportation facilities, a slow movement and high freights, shows well for wheat. With anything like active inquiry, wheat values would undoubtedly harden. Chicago futures declined about 2c per bushel during week. The weakening in Liverpool was not equivalent to 2c per cental. On the local Call Board December wheat declined about 2c, and May about 1½c. Many of tbe speculators who are long on the market are unloading December and taking May instead. In the spot market, quotable values for milling grades were without appreciable change, but bids on shipping wheat were reduced 25@50c per ton.

With high freight rates by ocean craft, no large supply of deep-sea tonnage, and stocks of wheat in the importing countries of Europe of fair proportions, and with tolerably liberal offerings from growers, more than enough to satisfy immediate needs, the wheat market could not very well display much strength. The scarcity of ocean tonnage is in a great measure due to Great Britain and the United States monopolizing numerous steamers in the prosecution of the two wars in which these two countries are now engaged. There is a prospect of a little relief locally, however, in transportation facilities, through about half a dozen tramp steamships now en route to this coast. By the designation tramp is meant in tbis instance, not being engaged permanently on any line or route, but seeking business in different quarters of the globe, wherever most needed and the most money is to be made. In consequence of increased business, inland freight rates and warehouse charges have been tending upward lately. Furthermore, the tax-paying time is upon us and the mid-winter holidays are near, making heavy demands upon the farmer and others for coin. All influences at the moment bearing upon values for wheat as upon most other lines of farm produce are bearish in their character, not excepting on this coast the good crop prospects at tbis early date for the coming season, tbis latter condition affecting values in no small degree. These influences which are urging producers to realize, are discouraging buyers from taking hold, either in the speculative market or of actual grain, tbus operating in a twofold manner against wbeat values. The worst feature is that conditions like those herewitb enumerated enable the speculative or gambling sbark and cbronic bear to pounce upon the market with both feet, taking advantage of tbe necessities and misfortunes of others to reap spoils. He toils not, neither does he spin, unless it is yarns to deceive the unwary, but he lives in many instances like a lord upon the wealth which others have had to sweat for, the eternal fitness and justice of wbich is not apparent. In the outward movement of wheat from this port, October makes a lighter showing than any previous month the current season, although at no time during tbe current cereal year has there been any noteworthy activity in the wheat export trade. The wheat clearances from this port for October aggregated only 225,200 centals, with a valuation of $250,000. The wheat shipments from here for the past four months, or since July 1st, foot up 1,041,000 centals, value $1,136,200. With the exception of the phenomenally light movement of last season, this is the smallest on record for many years. For corresponding period two years ago shipments were 4,500,000 centals wbeat, representing a value of $6,869,000.

California Milling	$1 07½@1 12½
Cal. No. 1 shipping, alongside	1 05 @1 06¼
Oregon Valley	1 05 @1 10
Walla Walla Blue Stem	1 02½@1 10
Walla Walla Club	1 02½@1 07½
Off qualities wheat	1 00 @1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for tbe options named:

December, 1899, delivery, $1.10¾@1.07⅞.

May, 1900, delivery, $1.16⅞@1.15.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.08¼@1.07⅞; May, 1900, $1.15½@1.15.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	7s0d@7s1d	6s3¼d@6s4d
Freight rates	25@27½s	33¾@36¼s
Local market	$1.17½@1.22½	$1.05@1.08¾

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The market is not quotably lower, but is weak and slow. The movement is light, both outward and on local account. Even at moderate concessians from current low rates, it would be impossible to effect free sales. Stocks are not particularly heavy and have been frequently much larger, but they are considerably ahead of the immediate demand.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

For desirable shipping grades, or for No. 1 to choice feed barley, firmness continues to be about as pronounced as for some time past, although many would expect, and naturally, too, that the very fair prospects for coming season should impart an easier tone. There has been sucb a very good export demand, however, that it is doubtful if any more barley of high grade will be on hand at the close of the season than will be actually required for home use while new stock will be becoming sufficiently seasoned to be available. A cargo of 89,440 centals barley, valued at $76,522, was cleared on Saturday last for Manchester, England. Thus far this season the shipments of barley aggregate 96,000 tons, the most of it going to Great Britain. This is just about double tbe quantity of wheat which has been forwarded from this port in the same period, and is close to the heavy record of two years ago, when from July 1st to Nov. 1st the outward movement of barley footed up 110,000 tons. The firmness of the market for No. 1 to choice feed barley is in a measure due to Call Board manipulation, one prominent operator being understood to have the long end of most of the outstanding December contracts, with a view of squeezing the shorts. On this account, the market has tended against buyers for barley which would pass inspection for Call Board use and could be delivered against contracts. The market for low-grade feed did not show any special firmness, supplies of this sort being fairly liberal, and offerings meeting with no noteworthy competition between buyers.

Feed, No. 1 to choice	85 @ 87½
Feed, fair to good	77½@ 82½
Brewing, No. 1 to choice	90 @1 00
Chevalier, No. 1 to choice	1 10 @1 12½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for tbe options named:

Seller 1899, new, 88@86¼c.

December, 1899, delivery, ——@——c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, 86¼c.

Oats.

Values for tbis cereal have been in the main fully as well sustained as during preceding week. There was a very fair demand for all grades and descriptions, and of fancy qualities there was very little offering, hardly enough to admit of quotations for the same. Choice to select are expected to be in larger evidence later on, after stocks of common to medium qualities shall bave been reduced to moderate proportions. Arrivals for the past week or two have not been heavy for this time of year, largely owing to the weather in Oregon and Washington having been unfavorable for forwarding freely. Choice seed oats bave continued in good request, and particularly desirable lots of tbis sort bave been salable at higher figures than were warranted as regular quotations. Colored oats wbich have been cleaned for seed, and are in second hands, are held at a sharp advance on prices below noted.

White Oats, fancy feed	1 25 @ —
White, good to choice	1 15 @1 22½
White, poor to fair	1 07½@1 12½
Gray, common to choice	1 10 @1 20
Milling	1 15 @1 22½
Surprise, good to choice	— @ —
Black Russian	95 @1 05
Red	95 @1 15

Corn.

Tbere are no special changes to record in quotable values or the general tone of tbe market for this cereal. Light quantities of new crop California have been received, mostly Small Yellow, but as a rule not sufficiently seasoned to be desirable for immediate use or to be especially sought after. Prices for tbis variety remain at a high level. Stocks of large corn are principally Eastern and are not of heavy volume. The imported offering, and in fact nearly all the corn on market, is in second hands and is being steadily held. There is nothing to warrant anticipating any radical changes in quotable rates in the near future.

Large White, good to choice	1 07½@1 10
Large Yellow	1 05 @1 07½
Small Yellow	1 42½@1 45
Eastern Mixed	97½@1 02½

Rye.

Inquiry is not lacking, but there is very little coming forward, and there are no noteworthy offerings to arrive. Market is firm at the quotations.

Good to choice, new	1 00 @1 02½

Buckwheat.

Market is inactive, not on account of lack of demand, but due to absence of offerings. Values are not well defined. Higher prices than below noted could probably be realized.

Good to choice	2 20 @2 25
Silverskin	— @ —

Beans.

The recent sharp advances in values are causing buyers to hesitate, the market having been rather quiet the past week. Free purchases would not be possible at any material reductions from full prices lately established. In fact, it is doubtful if large orders could be filled, even of such kinds as are in most liberal stock, without paying still firmer figures than have been yet quoted this season. There is a temporary lull, however, and it remains to be seen whether buyers or sellers will be the first to yield. Indications are that values have been crowded nearly if not altogether as high as existing necessities will admit of. On the other hand, it is not likely that prices will materially recede during the balance of the current season, or that very pronounced concessions to buyers will be necessary to cause a clean-up of supplies of this year's product, before there will be any beans of next season's crop ready to enter into consuming channels.

Pea, fair to good, 100 lbs	2 75 @2 90
Small White, good to choice	2 75 @3 00
Lady Washington	2 25 @2 40
Butter, small	3 75 @4 00
Butter, large	— @—
Pinks	2 25 @2 50
Bayos, good to choice	2 35 @2 50
Reds	3 75 @4 00
Red Kidneys	2 50 @2 75
Limas, good to choice	4 85 @—
Black-eye Beans	3 75 @—
Horse Beans	— @—
Garbanzos, large	2 75 @3 00
Garbanzos, small	1 60 @1 75

Advices by late mail from New York furnish the following review of the bean market, prices quoted being per 60-lb. bushel:

After the activity that marked the trading here for about six weeks there has come a lull in the market, and some kinds are not showing quite the strength that was displayed early in the week. The quantity of stock arriving is not much larger, but the trade seems to be fairly supplied, and some of the dealers who have stock on which a handsome profit can be made are inclined to realize now. This has checked the upward tendency here, although the reports from the country continue very strong. The jobbing price for choicest Marrow for some days past has been $2.30, but toward the close some carload lots are seeking custom at $2.25, and do not sell at all readily. New and old still go at same price, the latter selling the more readily because of larger size. Medium are steady at $1.85. A car or two of new Michigan Pea in barrels, and a few small lots of new State have sold at $1.85; bag lots of Michigan and best old State in barrels are offering at $1.80, and it is intimated that round lots might be shaded a little. Red Kidney have moved upward 5@10c, a few choice now selling at $2.50, and the best old at $2.25. The continued scarcity of White Kidney is making a strong market for such; few jobbing sales at $2.35@2.40. Only a few Yellow Eye here. Turtle Soup quiet at about $2.10. A sharp advance in California Lima has been established during the week; two or three days ago 1,000 bags sold at $3.25; since then jobbing business has been at $3.30@3.35. Only a few Scotch peas have arrived this week and the price jumped to $1.40; green followed the rise to $1.35 but there are a few more offering at the close.

Dried Peas.

Market presents fully as healthy tone as previously noted, and no likelihood of any change for the worse being speedily experienced. Desirable offerings of either Green or Niles peas would probably command an advance on best figures quoted.

Green Peas, California	1 85 @1 90
Niles Peas	1 60 @ —

Wool.

Considerable wool is moving outward, both via Victoria and Canadian Pacific and overland by rail direct, the market showing more activity than it has for many weeks. Heavy and defective wools, which have been so long wholly neglected, are now receiving attention, and prospects are that in the next five or six weeks remaining stocks of all descriptions will be closed out, leaving the market practically bare at the beginning of tbe new year. Quotable values are without particular change, but market is firm at the ruling figures. Prices for all foreign wools are relatively higher than for domestic fleeces, leaving no opportunity for importing, and offering no encouragement for manufacturers or dealers to hope for lower rates in the home markets. The way the Winter starts in, the clip of the coming Spring should be in every way first-class, mostly bright, free, and of long and strong staple. As it bids fair to come upon a bare market, the clip of 1900 should meet with prompt custom at good prices, and there is every indication at this date that the wools of the coming year will thus be favored.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	14 @15
Middle Counties	8 @10
Northern, free	9½@11½
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

There is no evidence of any movement of consequence in the hop market, either outward or on local account, and it will be almost phenomenal if any great export demand is experienced tbe current season. In this country the crop will certainly prove a good average. On this coast, where a large proportion of the American crop is grown, the yield is large and the quality in the main fine. Owing to the greatly increased acreage of recent years, a full crop everywhere causes a decided glut. A few good seasons in succession would send prices to such unprofitable levels that many producers would be driven out of the business and others would follow same course from choice. Then in a few years prices would recover to temptingly high levels, inducing entirely too many to engage in this industry. This has been the history of the hop trade, and there is likely to be the same recurrence. The demand for hops is not unlimited, and when produced beyond actual requirements, tbey are bound to prove a drug.

Good to choice, 1899 crop	8 @11

The following report of the hop market is furnished by a New York authority and came through by recent mail:

There has been a somewhat improved business this week, brewers showing more interest than at any time since the opening of the season. Some difficulties have stood in the way of trade, however and it has required more than usual effort to close important deals. Tho fact is that brewers were misled by the early offers to supply them with fine quality hops at about 10@11c; the samples now shown to them on these orders are too poor to suit their requirements, but they hesitate to pay the prices asked for a really choice article. Up to the present time the offerings on this market have been mostly of low grades, some lots being very poor, and these are having dull sale. Our slightly revised quotations represent as nearly as may be the rates realized on current transactions, with a very small proportion of the business at top figures. More doing in the interior of this State, and about all of the purchases were for home trade; the sales show wide range according to quality, say from 7c to 11½c with 12c refused for a few choice growths in the best sections of the State. Out in Oregon growers' ideas of values are generally above what our dealers consider the hops worth, and only a little business has resulted at 7@11c. About the same conditions exist in California; in the Sonoma district growers take a very confident view of the situation. According to latest London mail advices the small proportion of high class hops is making a firm market for such, while the abundance of low grades is depressing prices for these. It is now generally conceded that the English crop is upward of £300,000 old duty.

Hay and Straw.

Tbere is considerable hay coming forward which has been damaged by rain, but arrivals of choice are light and will likely continue so until values get beyond existing levels, as there is little inducement at present to draw stocks out of warehouse. For all common and rain-damaged hay the market is weak at the same low range of prices current for some time past, while for choice wheat and high-grade oat hay the tendency of values is to higher levels. Strictly select stable hay, either wheat or oat, is in most instances being held above quotable rates. Straw is in light receipt, but supplies are ample for the immediate demand.

Wheat	6 50@ 9 50
Wheat and Oat	6 00@ 8 50
Oat	6 00@ 8 00
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	—@—
Compressed	7 00@ 9 00
Straw, ₱ bale	25@ 40

Millstuffs.

Prices for most kinds of mill feed are fairly steady, with no particular heavy offerings of any description. Any changes in the near future in values for Bran and Middlings are more apt to be to lower than to higher figures.

Bran, ₱ ton	17 00@18 00
Middlings	18 50@20 00
Shorts, Oregon	17 50@18 50
Barley, Rolled	18 00@18 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

The last Panama steamer took 37,923 lbs. Mustard Seed for New York. Stocks of Yellow Mustard are practically exhausted, and supplies of the Trieste variety bid fair to be cleaned up at an early day. Alfalfa is in only moderate stock and is in fair request for seeding. In other seeds there is not much trading at present, and no large stocks upon which to operate.

	Per ctl.
Mustard, Trieste	3 15@3 25
Mustard, Yellow	3 75@4 00
Flax	2 00@2 25
	Per lb.
Canary	3½@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	8½@9

Bags and Bagging.

The Grain Bag market is displaying the usual mid-winter dullness. There is no evidence of anything doing on next season's account, and not likely to be any noteworthy trading for a month or two to come in future deliveries of this article. Wool Sacks are slow at former rates. Bean Bags are being steadily held. Values for Fruit Sacks are firm at last quoted advance.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¼
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@28
Gunnies	—@12½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	6 @ 6¾

Hides, Pelts and Tallow.

The advanced figures last noted for Hides remain in force, with market firm. Pelts are commanding previously quoted rates, and no difficulty in effecting sales at the values current. Tallow is selling at unchanged figures about as rapidly as it comes forward.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11 @11½	10 @10½
Medium Steers, 48 to 56 lbs	10 @10½	9 @ 9½
Light Steers, under 48 lbs	9½@10	9 @—
Heavy Cow Hides, over 50 lbs	9½@10	9 @—
Light Cow Hides, under 50 lbs	9½@10	9 @—
Wet Salted Kip	9½@10	9 @—
Wet Salted Veal	9½@10	9 @—
Wet Salted Calf	10 @10½	9½@10
Dry Hides	17 @—	13 @—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13 @—
Dry Calf, under 4 lbs	17 @—	14 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	90 @1 25	
Pelts, medium, per skin	60 @ 75	
Pelts, short wool, per skin	30 @ 50	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	
Deer Skins, thin winter	— @ 10	

Elk Hides	10	@	12
Tallow, good quality	4½	@	5
Tallow, No. 2	4	@	4½
Goat Skins, perfect	30	@	37½
Goat Skins, damaged	10	@	20
Kid Skins	5	@	10

Honey.

Market sbows the same firmness as previously noted, with stocks llght, both here and in the interior, particularly of higb grade or water white boney. Extracted is in better request than Comb, tbe latter being inquired for principally on local account.

Extracted, White Liquid	7½	@	7¾
Extracted, Light Amber	6½	@	7
Extracted, Amber	5	@	5½
White Comb, 1-lb frames	11½	@	12½
Amber Comb	8	@	10

Beeswax.

There is a demand at current rates for more than is offering. Tbe prospects are that market will remain favorable to sellers tbrougb-out tbe season.

Good to choice, light, ℔ lb	26	@	27
Dark	24	@	25

Live Stock and Meats.

Beef ruled steady, with fair inquiry and only moderate offerings. Veal was not quotably lower, but will likely be so at an early day. Mutton sold at about same range of values last quoted, the market sbowing steadiness. Lamb brought generally unchanged figures. Hogs were in only fair receipt, little more than enough for immediate use, and prices were fairly well maintained.

Beef, 1st quality, dressed, net ℔ lb	7	@	7½
Beef, 2d quality	6½	@	7
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wethers	6½	@	7
Hogs, hard grain fed, medium	5½	@	5⅝
Hogs, small, fat	5⅜	@	5½
Hogs, large hard	5½	@	5¼
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ℔ lb	7	@	9
Veal, large, ℔ lb	8	@	—
Lamb, spring, ℔ lb	8	@	8½

Poultry.

Much tbe same demoralized condition prevalled in this market as last noted, with poor prospects of there being any improvement so long as the war continues between receivers of Eastern poultry. Large Eastern chickens were sold tbe past week as low as $3 per doz., and common California stock went as low as $2 per doz.

Turkeys, young, ℔ lb	15	@	17
Turkeys, live hens, ℔ lb	14	@	15
Turkeys, live gobblers	14	@	15
Hens, Cal., ℔ doz	4 00	@	5 00
Roosters, old	3 50	@	4 00
Roosters, young, (full-grown)	3 00	@	3 50
Fryers	3 00	@	3 25
Broilers, large	3 00	@	3 25
Broilers, small	2 50	@	3 00
Ducks, ℔ doz	4 00	@	5 50
Geese, ℔ pair	1 50	@	1 75
Goslings, ℔ pair	1 50	@	1 75
Pigeons, Old, ℔ doz	1 12½	@	1 25
Pigeons, Young	1 50	@	1 75

Butter.

Market is weak and lower for fresb product, there baving been a quotable decline of 1@2c on high priced stock. Receipts are increasing, and the good prospects for plenty of feed the coming season give assurances of a liberal output of butter. Buyers are operating slowly, anticipating an easier market, and being anxious to clean up as speedily as possible the stocks of packed they are now carrying.

Creamery extras, ℔ lb	28	@29
Creamery firsts	27	@28
Creamery seconds	25	@26
Dairy select	25	@26
Dairy seconds	20	@22½
Dairy, soft and weedy	—	@—
Mixed store	14	@16
Creamery in tubs	18	@22
Pickled Roll	23	@25
Firkin, Cal., choice to select	19	@22½
Firkin, common to fair	16	@18

Cheese.

Values for tbis product are being fully as well maintained as for some time past, with supplies not particularly heavy and mostly in second bands. Mild-flavored new of high grade is commanding in a small way firmer figures than are quotable, stocks of tbis description being especially light.

California fancy flat, new	12	@—
California, good to choice	10½	@11½
California, fair to good	10	@11
California Cheddar	—	@—
California, "Young Americas"	10½	@12½

Eggs.

It looks very much as tbougb values for eggs had touched zenitb for the season. Tbere is certainly a weaker market than for a fortnight or more preceding. Select are now selling, both wholesale and retail, 2@3c per doz. under tbe bighest figures lately establisbed. Stocks of choice to select are not large, but they are on the increase, with prospects of being materially heavier in a few weeks, and dealers do not care to carry supplies of noteworthy magnitude on a declining market. Eastern and local cold storage eggs are offering freely at easy rates.

California, select, large white and fresh.	37½	@—
California, select, irregular color & size	32	@36
California, good to choice store	28	@32
Eastern, as to section and grading	20	@27
Eastern, cold storage	—	@—

Vegetables.

The market has presented little of an especially interesting character since last review. Tbere is not much variety now in this line, nor is there likely to be for several months to come. Onion market was fairly firm for cboice at the ruling figures, with only moderate offerings of select quality. Tomatoes were a drug most of tbe week, but this will not long continue. Peas and String Beans are still offering in small, though quotable quantities.

Beans, String, ℔ lb	4	@	5
Beans, Lima, ℔ lb	4	@	5
Cabbage, choice garden, ℔ 100	50	@	60
Cauliflower, ℔ doz	50	@	—
Cucumbers, Alameda, ℔ large box	50	@	75
Egg Plant, ℔ box	40	@	65
Garlic, new, ℔ lb	3½	@	5
Mushrooms, Buttons, ℔ lb	15	@	—
Mushrooms, wild, ℔ box	5	@	10
Okra, Green, ℔ box	75	@	1 00
Onions, Yellow, good to choice, cental	50	@	65
Peas, Sweet, Garden, ℔ lb	4	@	5
Peppers, Green Chile, ℔ box	50	@	75
Peppers, Bell, ℔ large box	75	@	1 00
Squash, Marrowfat, ℔ ton	10 00	@	15 00
Squash, Summer, ℔ box	75	@	1 00
Tomatoes, River, ℔ box	20	@	30
Tomatoes, Bay, ℔ box	25	@	40

Potatoes.

Cboice to select Salinas Burbank Seedlings, or equally desirable from Oregon or the northern part of this State, were in light supply and salable to advantage, market for such ruling firm. Sacramento river Burbanks were in good supply, however, and market for these inclined in favor of buyers, witb demand slow. Sweets were in fair receipt and market was fully as favorable to the buying interest as last quoted.

Burbanks, River, ℔ cental	65	@	80
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	—	@	—
River Reds	60	@	75
Early Rose	45	@	60
Garnet Chile	—	@	—
Burbanks, Salinas, ℔ cental	1 00	@1	25
Sweet River, ℔ cental	75	@1	00
Sweet Merced	1 00	@1	25

The Fruit Market.

Fresh Fruits.

In the line of fresh deciduous fruits, tbe display is now virtually limited to Apples and Pears, although an occasional odd box of other kinds is still to be seen, but hardly in quotable quantity. Stocks of Apples are of fair proportions, but they include few wbich can be termed fancy. Tbe latter sort, sucb as select Spitzenberg, 4 tiers to tbe box, are being favored with a firm market. Altbough not quotably higher than tban at date of last report, sales in a small way are effected at higher figures than below noted. Apples most in evidence are such varieties as Ben Davis, Bro. Jobatban, Smith's Cider, and various Pippins, these kinds selling mainly witbin range of 75c@$1.00 per box for good to cboice. Inferior qualities move slowly at low and irregular prices, mainly within range of 35@50c per box. Pears of the late varieties are only in moderate supply, but demand for tbis fruit is not very active, and for other tban a few very select Winter Nelis, or equally desirable stock, the market is lacking in firmness. Tbe quotable range of values remains as last noted, 50c@$1.25 per box, a few fancy selling a little higher in retail fashion. Grapes are in greatly reduced supply, and it is rather difficult to find offerings wbich are not more or less rain-damaged, the market in consequence ruling weak, there being little outlet other tban local for present supplies, as it is the exception where stock suitable for filling shipping orders can be secured. For the latter kind, rates higber than are quotable are in some instances realized. Persimmons and Pomegranates are in fair supply, as compared with the somewhat limited demand for these varieties, and prices keep within very reasonable bounds, $1 per box being a quotable extreme for Persimmons, while sales of Pomegranates over 75c per box are the exception. In tbe Berry line, Strawberries, Raspberries and Huckleberries are still on tbe list, but arrivals are not large, and the quality in the main is only mediocre at tbis date.

Apples, fancy, ℔ 50-lb. box	—	@	—
Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ℔ 50-lb. box	75	@	90
Apples, Green, common to fair, ℔ 50-lb. box	25	@	50
Grapes, Black, ℔ crate	30	@	60
Grapes, Fontainebleau, ℔ crate	—	@	—
Grapes, Muscat, ℔ crate	30	@	60
Grapes, Tokay, ℔ box, 25@50c; ℔ crate	30	@	60
Grapes, Seedless, ℔ box, —@—; ℔ crate	—	@	—
Grapes, Cornichon, ℔ crate	50	@	75
Grapes, Isabella, @ crate	50	@	85
Grapes, Zinfandel, ℔ ton	23 00	@27	00
Grapes, Mission, ℔ ton	20 00	@24	00
Grapes, White, ℔ ton	17 00	@22	00
Pears, late varieties, ℔ box	50	@1	25
Persimmons, ℔ box	65	@1	00
Plums, ℔ box	60	@	85
Pomegranates, ℔ box	50	@	75
Quinces, ℔ box	50	@	90
Raspberries, ℔ chest	5 00	@	7 00
Strawberries, Large, ℔ chest	2 00	@	4 00
Whortleberries, ℔ lb	5	@	7

Dried Fruits.

Stocks of most kinds of cured and evaporated fruits are now very light in first hands, few previous seasons showing sucb an active movement as has been experienced the past few months, and resulting so closely to a clean up of supplies in the hands of producers as at present exists. With tbe single exception of Prunes, the market sbows decided strength tbroughout, and there is no probability, bardly a possibility, of values receding during tbe balance of the season. While the movement in Prunes is not very brisk, and the crop in this State proved large, estimated as high as 100,000,000 pounds, tbere is good reason for anticipating a more active demand for this fruit in tbe near future, especially at current very reasonable rates. In the filling of orders for the four sizes, packers have now about all they can attend to, owing to the difficulty in obtaining small prunes. Tbe large, and medium sizes are not readily moved separately, however, at full current rates. With a light European crop, running to small sizes, and no competition of consequence this season from Oregon, there should be no trouble in marketing at prevailing figures the entire California yield before the Winter is over. As tbere are comparatively few Prunes in Europe, and those mostly small, tbis State will likely be drawn heavily upon for supplies a little later on, especially as we have in superabundance tbe larger sizes wbicb tbe foreign markets lack. Peacbes were in heavier supply than any other early fruit, but out of not less tban 1,200 carloads, not over 250 carloads now remain, and witb such a good showing, tbe market cannot be otherwise than firm. Apples are in light stock for this date, and values are being well maintained. Some of tbe largest packers are not curing heavily at present, and there are no prospects of supplies proving excessive this season. Figs are in good request at prevailing rates and market for fancy qualities is especially in healthy condition. Apricots, Pears, Plums and Nectarines are all in such light supply in the hands of jobbers that only small orders for these can be filled, and buyers find it necessary to pay full current rates.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12½
Apricots, Royal, fancy	12½	@	13½
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½	@	8
Apples, 50-lb. boxes, rings, pressed, good to choice	7	@	7½
Figs, White, fancy pressed	8½	@	9¼
Peaches, unpeeled, good to choice	5¼	@	6½
Peaches, unpeeled, fancy	7½	@	8½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½	@	8¾
Plums, Black, pitted	7	@	8
Plums, White and Red, pitted	8	@	8½
Prunes, in sacks, 40—50's	4½	@	4¾
50—60's	4	@	4¼
60—70's	3¾	@	4
70—80's	3¼	@	3½
80—90's	2¾	@	3
90—100's	2½	@	—
110—130's	2	@	—
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	3	@	—
4 sizes San Joaquin and Northern	2½	@	2¾
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4½	@	5½
Apples, quartered	4½	@	5½
Figs, Black	6	@	6½
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Late advices by mail from New York contain the following review of the dried fruit market in the East:

Evaporated apples have met a good demand and market is firm and higher. Export demand is rather limited but there is active buying by speculators who are short for this month's delivery and endeavoring to pick up stock here owing to the strong position maintained by holders at primary points. Strictly prime so'd at 7½ @7¾c early in the week, but toward the close 8c has become well established, several cars going at that figure and at the close holders are asking more with some business reported fractionally higher. The advance in choice and fancy grades has been less pronounced, the demand for them being confined to jobbing wants and prices have only worked up a little. Sun-dried apples have had more demand and also rule firm, but prices remain about the same. Chops dull and rarely exceeding 2½c. Cores and skins in good demand and firm, but few sales above 1½@1⅝c. Small fruits scarce, in few hands, and held firmly at the high figures quoted. California apricots firm, especially Royal which are very scarce. California peaches in good demand and firm, but top quotation on boxes extreme and only reached for a few fancy. California prunes selling well.

Apricots, Cal. Moorpark, 1899, per lb	15	@	17½
Apricots, Cal. Royal, 1899, per lb	13	@	14
Peaches, Cal., 1899, unpeeled, in boxs. lb	8½	@	10
Peaches, Cal., 1899, unpeeled, in bags, lb	8	@	9
Prunes, Cal., 1899, per lb	3½	@	7½

Raisins.

The market is in splendid shape, better than for many years, for the selling and producing interest. The demand is good, both for shipment and locally. Stocks are given little or no oppotunity to accumulate, and this is apt to continue to be the case. Tbe pack will doubtless fall short of early estimates, especially of bigb grade raisins, owing to recent rains. Prices remain unchanged.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ℔ box	$3 00	@	—
Do do 5-crown, ℔ box	2 50	@	—
Do do 4-crown, ℔ box	2 00	@	—
Do do 3 crown, ℔ box	1 60	@	—
Do do 2-crown, ℔ box	1 50	@	—
Valencia layers, ℔ 20-lb box	80	@1	00

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, ungraded	—	@	—

(Above prices for loose raisins are for 50-lb boxes.)

Dried Grapes	—	@	—

Thompson Seedless.—Bleached fancy, ℔ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ℔ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ℔ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ℔ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

A few new crop Oranges have been received from Oroville and Porterville, but they were not sufficiently ripe to be palatable. It will be a week or two yet before this fruit will be quotable. Early consignments of ripe Oranges will sell to advantage. New crop Lemons are beginning to put in an appearance. Last season's Lemons are still in fair supply and market is easy in tone. Limes are plentiful and market favors buyers. Grape Fruit is also on market in light quantity and is in limited request.

Grape fruit, ℔ box	2 50	@	3 50
Lemons—Cal., select, ℔ box	3 50	@	—
Cal., good to choice	2 50	@	3 00
Cal., common to good	2 00	@	2 50
Limes—Mexican, ℔ box	4 00	@	4 50
Cal., small box	—	@	—

Nuts.

Almonds are being offered sparingly, with market very firm, and prospects that stocks of soft and paper-shell will be wholly absorbed before the close of the mid-winter holiday season. Walnuts are now in such slim supply that jobbers have difficulty in filling orders. Tbe market naturally shows decided firmness. Peanuts are commanding steady rates, with supplies of very moderate volume.

California Almonds, shelled	25	@	26
California Almonds, paper shell, ℔ lb	12	@	14
California Almonds, soft shell	10	@	12
California Almonds, hard shell	6	@	7
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	10	@	10½
Walnuts White, Cal., standard	8½	@	9
Chestnuts, Cal. Italian	12½	@	15
Peanuts, Cal., fair to prime	5	@	6
Peanuts, Eastern hand-picked	6	@	7½
Pine Nuts	5	@	8

R. Hall's Pulmonary Balsam,
For COUGHS and COLDS.
J. R. GATES & CO., Druggists,
417 Sansome St., San Francisco.

MOORE, FERGUSON & CO.
WOOL, GRAIN, FLOUR
—AND—
General Commission Merchants,
310 CALIFORNIA ST., S. F.
Members of the San Francisco Produce Exchange.
☞Personal attention given to sales and liberal advances made on consignments at low rates of interest.

Wine.

Aside from contract business, which does not constitute a market, nothing of consequence has been yet done in this year's wine. Not for a month or two will values for 1899 vintage be sufficiently defined to enable giving trustworthy quotations. In tbe meantime, on stock crowded to sale, lower figures than are warranted will likely have to be accepted. Prices should rule higher tban for last year's product, but mucb will depend on the condition shown by a cbemical analysis. For claret from one to three years old the market remains quotable at 15@20c per gallon, as to quality, San Francisco delivery. This week's Panama steamer carried 105,100 gallons and 103 cases wine, the bulk of it being destined for New York.

Prices quoted in this review are intended, unless otberwise specified, to represent wholesale values, obtainable on offerings from tbe producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the Pacific Rural Press to have its quotations represent as nearly as possible the existing values. It sbould be remembered, bowever, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other band, produce of decidedly inferior quality is apt to be sold at less tban lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	91,677	1,768,732	1,528,085
Wheat, ctls	111,819	1,277,803	1,046,476
Barley, ctls	129,381	2,592,189	581,603
Oats, ctls	27,920	328,889	310,875
Corn ctls	1,870	43 585	68,550
Rye, ctls	1,120	62,057	11,730
Beans, sks	28,308	152,039	151,999
Potatoes, sks	30,856	390,898	385,223
Onions, sks	3,130	82,476	80,576
Hay, tons	3,184	70,909	67,220
Wool, bales	2,537	27,038	23,678
Hops, bales	276	4,940	6,285

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	43,056	1,011,583	960,488
Wheat, ctls	69,491	969,778	518,991
Barley, ctls	1,884	1,830,122	162,493
Oats, ctls	1,676	17,342	10,627
Corn, ctls	341	5,563	5,455
Beans, sks	365	8,214	58,248
Hay, bales	2,877	37,339	23,354
Wool, lbs	515,788	1,131,048	913,103
Hops, lbs	4,454	351,995	565,070
Honey, cases	5	2,424	3,808
Potatoes, pkgs	4,720	20,988	18,463

California Dried Fruit at New York

NEW YORK, Nov. 1.—California dried fruits; Market is ruling firm. Evaporated apples, common, 6a7c; prime wire tray, 7¾ @8c: choice, 8¼@8½c; fancy, 8½@9c.
Prunes, 3½@8½c.
Apricots, Royal, 13@15c; Moorpark, 15@19c.
Peaches unpeeled, 7½@10c; peeled, 20@22c.

Black Leg Vaccine.

Owing to the remarkable success with which the original black leg vaccine bad been used in Europe during the previous ten years, it was a foregone conclusion that the same article would meet with the same success when introduced into America in 1895 by the Pasteur Vaccine Company. Since tbat time, Pasteur vaccine bas been successfully used upon over one million bead of cattle in the United States, and its value as a preventive remedy proved beyond all question. The success of Pasteur vaccine bas naturally brougbt other black leg preparations into the market, but time will show how successful they may be. In order to avoid possible disappointment, it is important when ordering to specify "Pasteur vaccine," and see to it that the original and genuine preparation is secured. Pasteur vaccine for black leg is supplied in tbe form of a powder, to be administered at one application or at two applications, as desired. The Pasteur Company's remedy is also furnished in the form of a cord, ready for use. Tbe cord vaccine is, for distinction, called "Blacklegine," and is applied with a needle, which is the only instrument required. For full particulars, with official endorsements and testimonials from the largest and most prominent stock raisers who have been using Pasteur vaccine with success during the last four years, write to Pasteur Vaccine Company at their headquarters in Chicago, or to their branch offices at Omaha, Denver, Fort Worth, or San Francisco. *

Scenes in British Columbia.

Among the numerous beautiful sheets of water in British Columbia is that known as the Upper Columbia lake. These lakes, some of them merely the widening of a river, are all picturesque and form one of the most pleasing features of that scenic region.

Lake Windemere, in the East Kootenay division, is formed by a broadening of the Columbia river and is a beautiful sheet of water, navigable for small vessels. One of the accompanying engravings is that of the lake steamer Duchess at a landing.

The engravings giving views of the bluff overlooking upper Columbia lake and of Lake Windemere form a striking contrast with the wild mountainous scenes depicted in the remaining engravings. That of Mt. Thomas is reproduced from a photograph taken from a point at the head of Boulder creek at an altitude of 9250 feet and 3000 feet above the canyon. The summit of the mountain, snow-capped and treeless, rises several thousand feet higher.

Even more wild and forbidding is the illustration of Spillimachene mountain, buried in snow and surrounded by deep chasms, from the depths of which comes the thundering roar of a rushing mountain torrent.



MIDDLE FORK SPILLIMACHENE, BRITISH COLUMBIA.



MOUNT ST. THOMAS, BRITISH COLUMBIA.



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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 17, 1899.

635,069.—LIFE PRESERVER—Z. C. Angevine, Los Angeles, Cal.
635,009.—DISH WASHER—J. D. Atkinson, Seattle, Wash.
634,978.—WATER TUBE BOILER—M. P. Boss, S. F.
635,037.—TRUCK—C. A. Buck, S. F.
635,230.—BUCKLE—O. K. Burnham, Palouse, Wash.
635,234—STOOL SEAT—G. H. Chance, Portland, Or.
635,127. — FLUID - CONTROLLING MECHANISM — C. Cummings, S. F.
635,011.—CRUSHING MILL—J. M. Dyer, S. F.
635,012.—SAFETY GAS COCK—H. H. Fassett, S. F.
634,983.—INSUFFLATOR—E. T. Johnson, S. F.
635,049.—JAR CLOSER—L. Look, Dos Angeles, Cal.
635,264.— GRAIN HEADER — J. C. Lynch, Walla Walla, Wash.
635,177. — CONVEYOR — W. L. McCabe, Tacoma, Wash.
635,176.—FILLING FOR WOOD PAVEMENTS.—T. K. Muir, Portland, Or.
635,270.—DREDGER—Rix & Donahoo, S. F.
635,000.— ENVELOPE FASTENER—C. P. Schademan, Congress, Ariz.
634,918 —CALIPERS—J. H. Smith, Chico, Cal.
635,208.—CURRENT MOTOR—W. Turner, Wenatchee, Wash.
635,209—TELEPHONE MOUTH PIECE—G. W. Van Alstine, Los Angeles, Cal.
634,922.—COPY HOLDER—E. Waldrip, Asotin, Wash.
635,216.—MOP HEAD—C, M. Williams, Los Angeles, Cal.
634,973.—ENGINES—G. L. Woodworth, Palo Alto, Cal.
634,934.—SWING—W. S. Young, Artesia, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

SAFETY GAS COCK.—H. H. Fassett, San Francisco, Cal. No. 635,012. Dated Oct. 17, 1899. The object of this invention is to prevent the escape of gas and the danger arising therefrom if the gas cock is accidentally turned back after the gas has once been turned off. The invention consists of an elastic wavy outlined spring fitting circumferentially in a case or enclosure surrounding and concentric with the axis of the gas cock. A pin projects from the cock in line with the spring and forms contact with each of the raised portions of the wavy outline as it passes, and when it is left at the point where it is either closed or opened it is practically locked between two of these raised portions of the spring, so that it cannot be turned from its position without the exercise of considerable force. When sufficient force is applied the elastic nut of the spring causes it to yield so that the point of the pin will pass these raised portions of the spring.

CONTROLLING MECHANISM FOR FLUIDS AND GASES UNDER PRESSURE.—Charles Cummings, Oakland, Cal., assignor to the Pneumatic Power Co., San Francisco, Cal. No. 635,127. Dated Oct. 17, 1899. This invention relates to improvement in valves used in pipes for conveying fluids or gases under pressure. In operating machines by fluids or gases under pressure a main pipe or conductor extends from the source of power to the point or points where it is desired to apply it. Small pipes connect this main with the motors to be actuated and any number may be independently connected in this manner. The object of this invention is to provide for closing the connection between the main and any one of these small pipes in case of fracture of the pipe or other accident which would otherwise cause a loss of the fluid under pressure. This is particularly valuable where the main carries a fluid under a high pressure and in cases where the gas or fluid is circulated in a closed system at two unequal pressures. The invention consists essentially of an automatically operating valve interposed between the main and supplemental conducting pipes, the piston mounted upon the valve stem and movable in a cylinder, one end of which is open to pressure from the passage between the two pipes and the other to atmospheric pressure.

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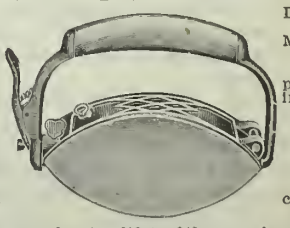
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Patrons of Husbandry.

A Talk to Farmers.

By G. W. WORTHEN, W. M. of California State Grange.

We stand upon the threshold of a new century. What thronging memories press into the review of the past century, and shall the future be less fruitful? Locomotion by steam, the system of telegraphy, the improvements and discoveries in natural philosophy, political changes in both hemispheres, the freedom of the slave, the great contest between scientific and religious opinions and methods, improvements in the press, in general literature and in all our educational facilities—these are only a few things that made the fifty years which closed the third quarter of the century eventful. The last quarter has been fraught with such marvelous developments that we wonder what will mark its close. "We are the heirs of all the ages." In the acquisition of this rich heritage the farmer has done his part. Daniel Webster said: "When tillage begins other arts follow. The farmers, therefore, are the founders of civilization."

The Grange.—It is for us to consider some of the problems that are given us to solve. I take it for granted that all who are engaged in agricultural pursuits have like interests. This being so, it follows that more effective work could be done by extensive social and business co-operation. There is but one national organization for the farmer, and that is the Order of the Patrons of Husbandry. The Grange, as it is commonly termed, seeks for thrift, economy and national prosperity. The corner-stone upon which the superstructure is erected is education—intellectual, moral and physical. "Whatever training of eye, ear, voice or hand is required as preparatory to apprenticeship in the industry that this civilization fosters and encourages, the State should furnish." We rejoice that at the head of our universitits are complete men.

The Forests.—There are some special things for the people of this State to do. Our forests are being destroyed by the axe and fires. One has but to read the editorials in our daily papers or look over our State to realize the ruin that is being wrought. From the many good things that have been said, I select the following from Prof. Keep: "The sooner our people realize the great peril to which our country is exposed, the sooner will they take vigorous measures to remedy the evil. Children should be taught to love trees, to plant them and to care for them. Societies like the Sierra Club, designed to favor the protection of our forests, should be encouraged, and the roll of their membership should be greatly increased; a strong public sentiment on the subject should be aroused; care for small groves should be carefully taken, as well as for the great forests; and, in short, everything that a free and intelligent people can do should be done to preserve the forests, which preserve the fountains, and preserve our lives."

Water Supply.—A kindred subject is the conservation of our water supply. It is hoped that representatives from Granges and all interested will attend the convention called to assemble in San Francisco on Nov. 14, 1899, to consider this matter of such vital importance. The National Grange will convene at Springfield, Ohio, on Nov. 15th, and any action taken by the convention in San Francisco can be reported to the National Grange for its consideration.

For Profitable Agriculture.—During the session of the California State Grange at Merced four years ago the Grange created a committee, of which G. W. Worthen—then Master of San Jose Grange—was chairman, to make a thorough investigation as to what agricultural industries pay best and how to make agriculture profitable. This committee has done much hard work and has reported yearly to the State Grange. As a partial result, at the next meeting of the National Grange there will be exhibited a variety of California fruits, etc., with appropriate circulars, with a view to bringing consumer and producer into closer relations and thus extend the markets for our products.

Grange Objects.—These are a few things the Grange has in hand. We need the best thoughts, the best efforts of all good men and women to cure the disease of the body politic—the infusion of the highest elements of power to leaven the masses with the essence of all elevation in life. Our aim is to promote the welfare of our country and mankind.

Since the organization of the Grange the farmer has advanced more than in the fifty years that preceded it. Then let us hold fast to that which is good and stand firmly together in advancing the cause of education, earnest and conscientious in the discharge of every duty to ourselves and mankind, ever supporting and maintaining our firm foundation which has been laid upon the rock of eternal truth.

The State Lecturer's Travels.

TO THE EDITOR:—Some days ago I received an invitation from the secretary of American River Grange, No. 172, to attend the celebration of the seventeenth anniversary of the building of their Grange hall at Soudan, Sacramento county, which latter point is on the Sacramento & Placerville line of railroad, fourteen miles east of Sacramento. Arriving at Soudan on the afternoon of the 19th, your correspondent was hospitably entertained at the country home of Bro. James Cornell. During the evening of the 19th rain began falling and continued in a gentle downpour during the following day. All the Granges in Sacramento county had been invited, as usual, to attend, but owing to the rain the attendance from other Granges was small.

American River Grange was organized April 24th, 1874, and has been in continuous existence ever since. October 26th, 1882, the present Grange hall was dedicated. This hall is a large two-story frame building, on the lower floor of which is situated the dining room and kitchen. The dining room seats 120 persons and the kitchen is large, commodious and well furnished with cooking utensils. Above the dining room, on the second floor, is the Grange hall, which is well arranged for meeting purposes, and has a smooth, well-oiled floor, on which the light fantastic can be tripped to perfection.

At 12:15 the Grange was called to order by Worthy Master N. H. Lauridson, and after the reading of the minutes of the previous session and a communication of regret at not being able to be present from Sister Laurola S. Woodhams of Santa Clara, Secretary of the State Grange, the Grange closed and all present descended to the dining room, where a sumptuous banquet was spread and thoroughly enjoyed by those present.

After doing ample justice to the good things spread upon the table the members of the Grange and invited guests assembled in the Grange hall at 2 P. M., when the following programme was carried out:

Address on the "Work and Purposes of the Order of Patrons of Husbandry," State Lecturer J. S. Taylor; song, "The Real McCoy," Bro. W. H. Criswell; remarks, Bro. James Cornell; recitation, Sister Carrie Hansen; song, Secretary Etta Cornell; reading, Bro. J. E. Beach; duet, Della Criswell and Macie Bryan; recitation, Sister Mary Beach; song, by the Grange.

The evening was spent in dancing and, notwithstanding the downpour, a fair-sized crowd of young people attended. After the dance supper was served. I spent the night with Worthy Master Lauridson, by whom I was driven into Sacramento the next morning in time to take the 7 o'clock train for Napa. Long may American River Grange prosper!

J. S. TAYLOR,
Lecturer Cal. State Grange.

Stockton Farmers' Institute.

One of the University series of Farmers' Institutes was held Oct. 27th and 28th at Stockton. The arrangements were undertaken by a local committee, which awarded its chief executive work to h. L. Overhiser, and he pursued it wit great diligence. The sessions were attended by something more than 100, and spirited discussions were held upon many important questions. Grangers were very prominent and took leading parts, including Brother Daniel Flint of Sacramento and Brother Taylor of Napa, the present Lecturer of the State Grange, who delivered a stirring address on the aims and purposes of the Order. The University speakers were very attentively heard, and thorough approval of this form of University Extension was given to a set of resolutions proposed by J. M. Bigger and enthusiastically adopted.

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The cow has eaten something which has caused the above described symptoms—ergotized food or some powerful irritant, as unslacked lime, etc. The apparent soreness of feet is really weakness from her condition; she walks as if she did not own the feet, puts them down wherever they land. Use the following electuary: Boric acid, 1 oz.; ammoniated iron citrate, ½ oz.; chlorate potash, 2 oz.; honey, 6 oz.; mix all and give a tablespoonful three times daily. E. J. CREELY.

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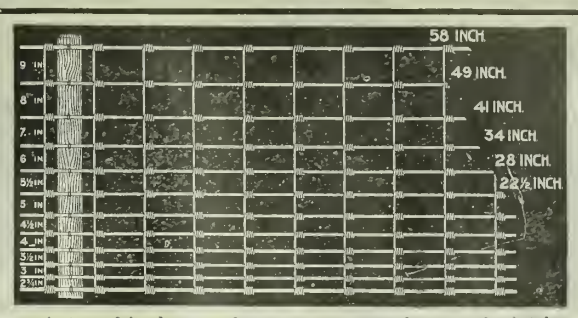
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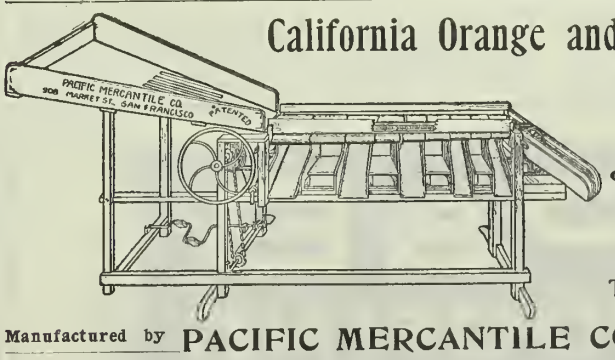
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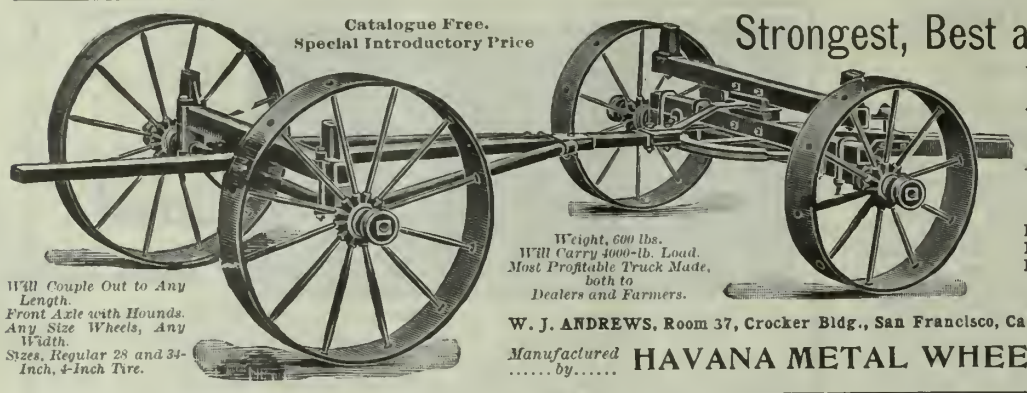
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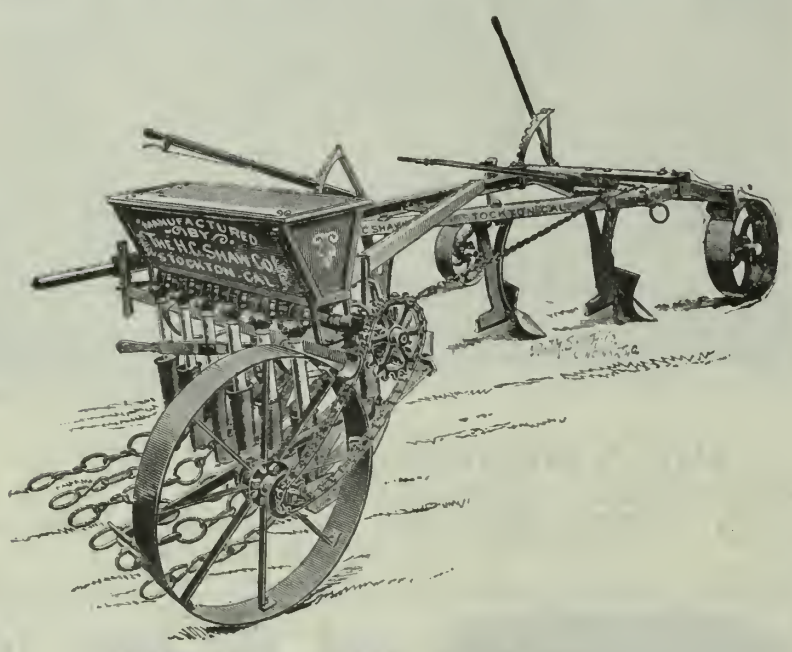
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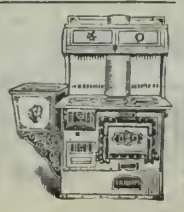
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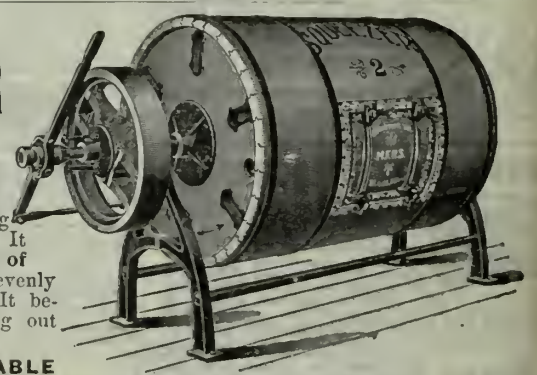
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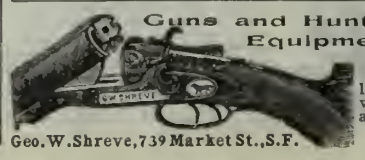
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AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 20. SAN FRANCISCO, SATURDAY, NOVEMBER 11, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

At the Head of a California Irrigating System.

There are many people who talk very earnestly and well about the benefits of irrigation who have very little idea of the way in which the water that is producing much wealth is taken out from the streams which bring it down from the melting snows and heavy rains of the mountains. No doubt it is also true that many of our readers who are using this water to excellent advantage have a very indefinite idea of where it immediately comes from and by what headworks it is turned aside from its natural course to the sea to render them service. All these details of methods seem to be commanding increased attention in these later days, because the great arid interior is awakening to the opportunities opened by irrigation and is desirous to know how California gets her irrigation water. For this reason the Government experts are giving increased attention to California and the systems of the San Joaquin valley are being carefully described and illustrated in the latest Government publications.

An instance of this is found in the Water Supply Papers of the U. S. Geological Survey, in which the local descriptions are by C. E. Grunsky, the well-known California irrigation engineer. From this source we take an exposition of the works of the San Joaquin and Kings River canal, which is one of the oldest in the valley and distributes water over a considerable area of the West Side.

The first engraving shows the canal starting out in a westerly direction from the San Joaquin river, just below the discharge of the waters of Fresno slough. Just below the opening of the canal an island is seen in the San Joaquin which was taken by the engineers as a vantage point in their work. The engraving also shows the steamboat chute filling the space from the bank to the west side of the island. The second engraving shows a sketch of the same island with the end of this chute on the right, and on the left, reaching away to the farther bank, the brush dam which backs up the water so it will flow freely into the canal. The two lower engravings give up and down stream views of the steamboat chute already mentioned.

Of these various features of the work it may be further said that the canal is about fifty feet wide—about the same as the width of the steamboat chute which is near it. This chute is obviously a way to raise the water as necessary without putting in an obstruction, which would stop navigation. This chute has what is called a falling dam, which holds back the water except when its lowering is required by the occasional passage of river craft. The views show that the works required much piling and planking, and are therefore a constant item of expense, as is also the 350 feet of brush dam which has to be repaired or replaced each spring after the winter floods have done their worst with it. Besides the piling and sheathing, much brush and sacked sand have to be used to protect the natural banks from cutting. Still the enterprise has proved profitable to Miller & Lux, who are practically the sole owners of the system, and they have had in some years as much as 38,000 acres under irrigation from this source. Recently they have developed colony enterprises upon it, and the recent considerable development of the upper end of the West Side has shown what irrigation can do for that arid region by the prosperity which has prevailed during the recent years of drouth.



HEAD OF SAN JOAQUIN AND KINGS RIVER CANAL.



BRUSH DAM AT HEAD OF SAN JOAQUIN AND KINGS RIVER CANAL.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, November 11, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

There is another good storm on and it begins to look like one of the old-fashioned kind, which begins very gently and amasses force later, which carries it all over the State. Still, at the time of closing our forms on Wednesday evening, the Weather Bureau has only data for predicting showers, though they may extend over a large area and reach into southern California, where they are especially desirable. Enough has fallen everywhere north of Tehachapi to speed fall work and a large area of grain is going in in good shape. Grass is growing quickly in the warm intervals between storms, and the season is shaping itself as well as could be wished.

Uncle Sam and all his people are so busy that cars and boats are too few to serve them. Beef is in rather light supply here because there are not enough cars to move down stock from Nevada. Wheat is no doubt humored in its downward turn this week by the scarcity of ships. Even the tramp steamers coming here for wheat are captured by the Government for Philippine transports. Freer shipping facilities would also help barley probably, for it is still wanted abroad, and corn is higher because of the freight-car famine. Things to go out are reduced, and things to come in are increased, by the same constriction in transportation facilities. Oats, both choice brown and white, are higher. Fancy stored hay is higher, but lower grades and wet stock are as cheap as ever. Mill feeds are barely steady and promise lower. Hogs are about enough for the markets but too high for the packers. Butter is lower, as feed is coming on finely. Eggs are weak but thus far unchanged. Poultry is doing better. The conflict of receivers of Eastern stock seems to be patched up but is expected to reappear. Turkeys are selling fairly well. River potatoes are arriving in large quantities but strictly choice are still scarce and high. Fine onions are firm. Beans are held strongly at the recent advance. Prunes are rather weak, as buyers have reduced their figures for large and medium sizes. Small prunes are scarce. Dried apples are in good demand for both local use and shipment. A carload of Porterville oranges has been received, but sales are not active at the prices asked. Lemons are weak. Nuts are cleaned up and prices have advanced. Wool is firm and rapidly going. The situation seems strong both here and at the East.

The Profession of Forestry.

The United States has been slow to recognize the profession of forestry but recognition is now coming rapidly. The Bureau of Forestry of the United States Department of Agriculture is obtaining such a hearing as has never before been accorded to it, and its recommendations are received with a more appreciative spirit. Nearly everyone is beginning to concede that there is a great deal more than sentiment to forest regulation. The outcry is no longer a plaintive appeal: "Woodman, spare that tree," it has an added element of science and economics and becomes an industrial command: "Woodman, spare that tree—cut the next one, which is, from all points of view, fit to cut!" This intelligent command includes all that is true and valuable in the old sentiment of tree-saving and adds so much more that is also true and valuable that it embodies a force which all are compelled to respect, and for this reason it is moving all classes, even those whose trade is tree-destruction. The result is that the poet who pleads for the forests now finds himself surrounded by throngs of men and women of science and industry, of commerce and manufacture, who rejoice to find new meanings in the poet's song and give him wider honor as the singer. In this respect, then, there arises a new demonstration of the fact that the esthetic is not at enmity with the economic and the industrial, but is really an illumination of it, which will disclose new motive and incentive and ensure higher and truer attainment.

The wider recognition of the value of forestry science is creating a demand for two things: teachers and practitioners. Owners of forest lands, with all motives from park-making to lumbermen, are calling for men who can demonstrate to them this wonderful art of forestry, which improves the forest by wise destructive agencies, enabling the possessor to realize both earnings and unearned increment from it. This is a business proposition which has had ample demonstration in distant parts of the world, but is just now for the first time claiming attention in this country. Its reward is such that capitalists are impatient to adopt the new policy. There is a demand for the services of those who install the practices which are involved in forest cropping and conservation. There is no visible supply of such talent in this country and a supply must be produced. This fact is already so clearly recognized that a demand for instruction in the art and science of forestry has rapidly arisen. The young men have already caught wind of the fact that there are not enough trained foresters to supply the requirements of the forestry work which the Government has already entered upon. They are aware that the men now employed to manage the reserves are not foresters, though they are zealous guardians. It is clear that the future of these reserves requires a more perfect treatment than merely stamping out fires and sheep herders, but, whatever more they require, nothing more can now be given them because there are no trained men to carry out a better system. Young men with their eyes on the main chances see a future in forestry and are anxious for qualification.

Forestry education is therefore one of the pressing needs of the day, and it must be met. The State of New York has taken the lead in providing a full course of instruction in forestry science and practice by an appropriation which recently established a College of Forestry at Cornell University. There is a broad course of theoretical instruction at the University seat and practical work in the grand forest-laboratory in the Adriondacks. Aside from this, we are not aware that there exists in an American institution fully equipped forestry instruction, although all our greater Universities have provisions for instruction in many branches which are proper components of a course in forestry.

This is the case at the University of California, where everything is available for such a course except the one essential item of modern forestry in theory and practice. The underlying sciences of geology, chemistry, botany and zoology, the mathematics and languages, the arboricultural arts of propagation and growth—all these and others are ready for alignment in a forestry course or a forestry college as complete as that at Cornell as soon as the keystone of the arch—the chair of forestry—is provided. We believe this will not long be lacking. In his inaugural address, two weeks ago, President Wheeler mentioned several directions in which the University needed expansion, and one of these specially cited was instruction in forestry. We expect he will require for this the very grade of ability which he declared would alone be satisfactory for the University under his administration, and that is the very best ability available.

This is specially needed on this coast at the present time. Our young people are demanding forestry education. Some of the most important and unique problems in forestry must be worked out on this coast, with its peculiar forestation and its peculiar soils, climates and topography. Some of the most important economic problems, too, are resident here, for in the northwest corner of the United States the chief forests now exist—forests which are the hope of the future in all lines of forest products.

Forest instruction must begin in the lower schools and advance through all the preparatory years until the University diploma becomes the certificate of the highest special instruction to those who choose this line of effort. It is quite certain that all the great institutions of the country will take up the work in answer to the popular demand for instruction and through a correct conception of its importance and of the educational value of the matters involved in it. The growing popular sentiment in favor of forestry, to which allusion was made at first, exists as a strong force to secure facilities for forestry education. All the great industrial organizations are calling for it and no doubt from their own interest and appreciation and from the manifest desire of the public, whom they earnestly desire to serve, the managers of our greater institutions will announce forestry curricula at the earliest possible moment.

W. A. Taylor, assistant chief of the division of pomology in the Department of Agriculture, says a continuous showing of American fruits is to be made at the Exposition in Paris next year, particularly those for which it is desired to create a demand or to expand the European market. At Paris there will be 250 barrels of choice American apples in cold storage, small lots being taken from the supply from time to time as needed to keep up a continuous fresh fruit exhibit. Oranges will be treated in the same manner. The more perishable fresh fruit will be shipped regularly. California, for instance, has arranged to send over every week a supply of fresh perishable fruit.

The quince will not stand expansion in California because it does not seem to require many to supply the whole country. Robert Howe's thirty acres of quinces in Sonoma valley is, however, still in evidence, as it has been for the last fifteen or twenty years. The Santa Rosa *Republican* says this year Mr. Howe has shipped ten carloads of thirteen tons each, or 6300 boxes. The through freight bills from Suisun east were thirty-two hundred and fifty dollars, and the way freight from Sonoma brings the freight bills up a hundred or two more. The fruit which ripens between carload shipments supplies San Francisco.

It is not often that California conditions favor the occurrences reported to the Stockton *Mail* from Roberts island, that uncut barley is sprouting in the head. The recent rains gave it such a soaking that the kernels are actually taking root on top of the stalk. Even wheat left standing in the field is beginning to sprout in the head, and on top of the stacked hay in exposed places a fine crop of new grain is beginning to grow.

The *American Seed Trade* renews its vigorous protest against the free distribution of common garden seeds by Congressmen. We hardly see how more can be done to restrict the expenditure to the introduction of new things from all parts of the world than is now being done under Secretary Wilson. This may be the ultimate settlement of the matter.

QUERIES AND REPLIES.

Sunburned Trees.

To THE EDITOR:—I would like your opinion in regard to prune trees in my orchard, near Campbell. They are mostly on almond root and were set in 1891. Two years ago the roots were treated with carbon bisulphide and injured more or less. They showed most injury on the south side. Of course, the bark was burned in spots and nearly girdled the tree. We left trees that had live, green bark 2 inches or more wide, extending from body to roots. They bore fruit this year that matured; but I noticed dead limbs on the south side—not the whole side, but a few limbs—and on these the gum had exuded.

In looking them over now, I find that in many the bark gives no indications of growth on the south side, while the other parts show good growth. The bark on the south side appears to me to be dead wood up to the first limb—12 to 18 inches. In removing the earth from there it gives a sour smell. Do you think they will live, or eventually die? Some say take them out, and others say no.—ENQUIRER, San Jose.

We think that the injury to your prune trees was due quite as much to sunburn as to the use of carbon bisulphide. Where the tree is injured so that there is a considerable die-back and much of the bark of the stem is injured, it is usually better to dig it out and plant a new tree, and then protect the bark by whitewash, or by wrapping it with sacking or something of that sort. Whether the old trees will be worth keeping or not depends upon how badly they are injured. If the bad place on the south side is not too wide, it will ultimately grow over with new bark, starting from each side. Scrape off the old, dead bark of the south side as clean as possible, and then give the stem or trunk a thorough whitewashing, using a whitewash made of old slacked lime and whale oil soap; also stir in a little sulphur. This will have the effect of excluding borers and possibly protect the wood from decay until the new bark covers it. As to whether the trees will be profitable or not depends upon how badly they are injured. Remove the die-back to sound wood, protect the healthy bark from further burning, watch them constantly to exclude insects and promote the healing process. It is still a question whether a young, healthy tree will not get to profit sooner.

Too Much Salt.

To THE EDITOR:—I send a part of a large vine of *Tecoma jasminoides* which is dying back, although I cannot find any disease upon it. I send also some of the soil, in case the trouble may be there.—READER, Orange county.

The examination of the soil that you sent shows that it contains a considerable amount of common salt. This is very destructive to vegetation and would perhaps sufficiently account for the failure of your vine. The occurrence of common salt is somewhat common in your region, as what is called alkali there is different from alkali in other parts, because there seems to be so much salt mixed with it. If the situation could be deeply drained and considerable fresh water used the salt would be washed out. There is no other treatment known for the removal of salt. It cannot be neutralized by other chemicals, as is possible with soda alkali.

Crystallized Gypsum.

To THE EDITOR:—I send a specimen of transparent crystal. What is it, and is it of any value?—SUBSCRIBER, San Diego county.

The specimen which you send is crystallized gypsum, or sulphate of lime. It is used as a stimulant for plant growth. When it is finely ground it is worth about $7.50 a ton. It occurs, however, in such large quantities in most parts of the State that unless you can find local demand it would not be worth handling. The fact of its abundance has reduced the rate nearly one-half during the last few years.

The English Walnut in Tehama County.

To THE EDITOR:—There are a good many English walnut trees in this section, but none of them in bearing. Is it because they are too young or are there difficulties in the way? The soil is a dark-colored red land, quite productive and suits the peach, apple, pear, prune, etc.—READER, Tehama county.

The English walnut tree is somewhat uncertain as far north, and success usually depends on securing the French varieties, which are different in habit from the variety chiefly grown in southern California. These French varieties are bearing successfully much farther north than you are. The soil which suits other fruits you mention ought to give you fairly good results with the walnut if you have the more hardy varieties.

Intermittent Moisture and Untimely Blooming.

To THE EDITOR:—In your issue of last week you invite reports on observations as to moisture conditions producing late fruit blossoms. In September of this year W. S. Stoddard, a near neighbor of mine, after irrigating a cherry tree in his yard quite freely, was astonished to see it put forth blossoms. The place where I live was just purchased by me in the summer, and the yard had been sadly neglected, so far as irrigation and care were concerned. A cherry tree in the yard had not been irrigated at all during the spring and summer season. In the fore part of October it looked very sick and inclined to wither and die. I flooded it for several days in succession. The weather was quite warm, The result was, that the tree recovered very much from its neglect, put forth new growth of leaves, and several of the limbs blossomed as did the Stoddard tree the month before. We attribute this freak entirely to the excessive moisture given the tree during the warm weather after a long lack of moisture.—JOHN J. WELLS, Red Bluff.

This agrees very closely with our own observations. The same result is produced by early rains when trees have been driven to dormancy by drouth, and sometimes without rains when the tree would get a fresh impetus by the rise of water in the soil in early autumn, or when the shorter and cooler days reduce evaporation so that sap pressure starts new activity.

We still desire to hear from all who have observations on any of these points.

Feeding Egyptian Corn to Horses.

To THE EDITOR:—I see in your paper of Nov. 4 an inquiry in regard to Egyptian corn for horse feed. I used the grain and fodder night and morning, and fed oat and wheat hay at noon for four months in winter to both mules and horses on the George Hearst tract at Palermo, where I was foreman at that time, and my teams were in fine condition and no signs of colic or sickness of any kind. Also, in 1881, I fed horses the grain and wheat hay with better satisfaction than barley, but do not feed more than two-thirds as much Egyptian corn as you would barley, and if the grain is whole it is better to soak it, as the kernel is very hard.—A. P. RUGGLES, Alma.

This seems to be straight and satisfactory. Do all agree with it?

A New Thing in the Santa Cruz Mountains.

To THE EDITOR:—I see some remarks in regard to "Freaky Blooming of Fruit Trees." There are a great many prune trees in the Santa Cruz mountains that have bloomed and have prunes forming now, Nov. 3. I took from the orchard of Miss A. E. Aiken yesterday a bunch containing six blooms and four of them had prunes formed half the size of a green pea. I have been fruit raising for twelve years and have never seen or heard of trees blooming or setting to fruit at this time of the year. I should like to hear from anyone who can give cause for same.—A. P. R, Alma.

The freakiness is not new and has been reported for years, especially in dry, warm situations along the coast. We should expect it in Santa Cruz as elsewhere. Has it never been seen before?

Pruning the Olive.

To THE EDITOR:—Will you kindly inform me through your paper of the proper time to trim olive trees of their suckers, and to top them?—GROWER, Simi, Ventura county.

The best time for severe pruning of the olive is during the inactivity of the tree following the fruit gathering. If there has been a large growth of suckers through neglect, the trees can be both cleaned up and cut back at that time. The best time, however, to remove a sucker is when you catch the first sight of it—just as it breaks the bark, if possible.

Cowpeas, Sojas and Cassava.

To THE EDITOR:—I want to try Australian salt bush on granitic soil free from alkali. Where can I get seed for a quarter of an acre? How about cowpeas, soja beans and cassava? What do they require for success?—READER, Sutter county.

You can get the seed of the Australian salt bush in almost any quantity from the seedsmen in San Francisco. The plant is making a very good record upon dry land which has no alkali, but it is altogether probable that there are some situations which are too dry for the suitable growth of it. The cowpea and the soja bean will both make suitable growth on moist land in the summer time when there is no danger of frost. They do not do well in dry land nor during the frosty season. The cassava is another plant which does not relish the drought of California, but on moist river bottom or overflow land will probably produce very satisfactory results.

Growing and Fattening Hogs.

To THE EDITOR:—What is the best and cheapest feed to grow and fatten hogs?—M., Tehama county.

There is nothing which yields so large returns and gives such quick growth of the animals during their early life than alfalfa, if you have land and water available to get several crops of it during the year. For grain, unless you can grow barley for fattening, Egyptian corn is a very satisfactory substitute and will grow in the summer with less water than any other grain. It will endure much more dry heat than Indian corn.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Nov. 6, 1899.

ALEXANDER MCADIE, Forecast Official and Station Director.

The temperature for the week has been nearly normal, except in southern California, where it was slightly above. Light rain has fallen in most sections, but the precipitation in the extreme south was too light to be of benefit to young grain. Unthreshed grain, hay in the fields and some late grapes were damaged by the rain, but the loss will be trifling as compared with the benefit resulting to early grain and pasturage. Farmers are plowing and seeding, and preparations are being made in all sections for a large acreage of grain, principally wheat and oats. Volunteer grain has made a good start, and pasturage is said to be more abundant than for many years at this season. The second crop of raisins is largely cured and under shelter. Dried fruits are moving eastward in large quantities. The first car of oranges for the season was shipped from Porterville Oct. 30; the crop is ripening rapidly, and the season is much earlier than usual; the fruit is reported to be of excellent quality, and the yield at least equal to last season's. Orange shipments from northern California will commence about the 15th.

Sacramento Valley.

Oranges are coloring rapidly, and shipments will begin about the 15th; it is estimated that the yield will be at least equal to that of last season. Olives are being gathered. Pruning is in progress. Plowing and seeding are progressing. A large acreage of grain is being sown. Pasturage is abundant. Light frosts occurred in some localities during the week. The rain was beneficial.

Coast and Bay Sections.

Late grapes were nearly all gathered before the recent rain, and very little damage was done. Late pears are being gathered in Lake county. Large quantities of dried fruits are being shipped East. The sugar beet harvest is in progress. In some sections unthreshed grain and hay in the fields were damaged by rain, and though not a total loss, will be inferior in quality. The soil is in excellent condition, and plowing and seeding are progressing. Feed is more plentiful on the ranges than at this season for many years.

San Joaquin Valley.

Heavy dews and fogs are still retarding the work of curing the second crop of raisins Driers are being operated to full capacity. Large quantities of grapes are being sent to wineries. The prune crop is nearly all under cover. Shipments of dried fruits to Eastern markets continue. The first car of oranges left Porterville October 30. Picking and packing are in progress. The fruit is of excellent quality. The rainfall has been sufficient in most sections to soften the soil and plowing and seeding are progressing rapidly. Farmers are preparing for a large acreage of grain. Volunteer grain is making a good growth The recent rain was especially beneficial to pasturage and feed for stock will be abundant.

Southern California.

Oranges ripened rapidly during the week under very favorable conditions. Shipments will commence somewhat earlier than usual. Early sown grain and pasturage were greatly benefited by the rain of October 30. There will be a large acreage of wheat and oats if conditions remain favorable. Plowing and seeding continue. The rainfall in the extreme southern portion has been very light, and more is needed soon to save young grain.

LOS ANGELES SUMMARY.—The week was generally warmer than usual at this season, with considerable drying winds. The weather was favorable for ripening oranges and drying raisins, but it was unfavorable for grass, grain and new feed, which are beginning to show the want of rain. Plowing and seeding continue actively, but some farmers are waiting for good, soaking rains before starting work. Threshers are at work on grain that was wetted by the late rains. Much of it will be saved, but it will be of inferior quality. The bean harvest is ended in localities and the yield is better than expected. Oranges are ripening fast. There is some complaint of splitting. Walnut gathering continues in places, in others it is over.—GEORGE W. FRANKLIN.

EUREKA SUMMARY.—Potato and apple harvest continues, and plowing in some localities.

The following data for the week ending 5 A. M. Wednesday, November 8, 1899, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	1.44	7.33	4.02	4.78	44	66
Red Bluff	.24	3.28	0.91	2.73	44	66
Sacramento	.18	4.62	1.00	1.78	44	68
San Francisco	T	4.06	1.92	2.00	50	64
Fresno	.02	2.08	1.15	1.06	42	76
Independence	.00	.37	0.31	1.10	38	66
San Luis Obispo	.00	3.92	0.59	2.18	36	76
Los Angeles	.00	1.57	0.18	1.58	50	86
San Diego	.00	0.42	0.07	.64	48	80
Yuma	.00	0.08	0.18	1.04	42	86

HORTICULTURE.

How Apples are Planted and Grown in San Diego County.

By Chester Gunn at the Julian Farmers' Institute.

The apple is the king of all fruits. It occupies the same place among the different fruits that the potato fills among the vegetables. There is no fruit more healthful for both old and young. It is good to eat apples just before going to bed. The apple is excellent brain food. It contains more phosphoric acid in easily digestable shape than any other fruit. It promotes sound, healthy sleep; excites action of the liver and is a very good antidote for the craving for strong drink. In fact the more apples eaten the less visits from your doctor. The apple is good cooked or raw, sun-dried or evaporated. Baked, boiled or fried it is always a most healthful and refreshing food.

Planting.—I believe there are about 2500 varieties of apples, many of which are so nearly alike that it would require an expert to tell them apart. I am not acquainted with many varieties, never having had anything to do with raising fruit before coming to Julian to live. Twenty-three years ago I planted my first trees, about three acres. I set my trees 25 feet apart, using a piece of new rope to measure with. The next year I added two acres to my orchard, keeping my lines straight. I then found that my rope had stretched and that the east row of trees were 30 feet apart. When I extended my orchard thirteen years ago I took 30 feet as the best distance for apple trees, and planted at that distance. I now wish my rope had been more elastic, so that my trees could be 35, or better, 40 feet apart, which I believe would give better results in the Julian country, especially if we are to have many more years of as short rainfall as the past two.

Varieties.—What varieties to plant was the first question that presented itself to me, as to all beginners. I read everything I could get hold of about apples, which was mostly in eastern papers, before I decided just what I wanted, and I finally made the mistake which most beginners make. I believed all I read applied to my location, and that whatever the tree men said about their new varieties was true. Had I gone to the few orchards in my locality and enquired what varieties did well, bore good crops, and sold well, I would have been better off.

When I finally planted I put out about thirty varieties of apples, some I have since grafted over and I expect in time to graft or bud over about one-half or two-thirds of my orchard, finally reducing the number of varieties to six or eight. No greater mistake can be made than to plant largely of any variety because it does well in some other place It is safe only to plant largely of varieties that have been tried in your locality, and found to do well. If you are planting for market you do not want many early varieties, for two reasons: First, the northern part of the State will put early apples on the market at least a month before you can. Second, your early apples will come when peaches and apricots are plentiful, and people will eat them instead of apples; besides, early apples are never very good eating, and are poor keepers. I have about 3000 trees on my place, and I have only two Red June and two Astrachan for early fruit, and that is too many.

Were I planting the same number of trees now it would be like this:

Duchess of Oldenberg	100
Jonathan	100
Yellow Bellflower	700
Newtown Pippin	700
R. I. Greening	300
W. W. Pearmain	300
Rome Beauty	500
Winesap	100
Stark	200

Varieties Described.—The Duchess and Jonathan come along early in September, and are out of the way for the Bellflower. Then comes the Greening and other varieties named. There are several other varieties which do very well in Julian, such as Smith's Cider, Ben Davis, Grimes' Golden Pippin, Spitzenberg, etc. The Smith Cider is a fair apple, aud fair bearer, and is handsome. The Ben Davis is handsome, but a poor seller, and poor quality. The Spitzenberg is a very good apple, but rather shy bearer. The Baldwin is also a good apple, but too shy for profit, as is the Rawls Janet. The nine varieties first named are in my opinion the best for the Julian country for profit. The trees are nearly free from mildew, are good growers, and the apples are of good quality and good sellers, as well as good bearers, all very important points if planting for market.

Planting.—I would, if planting, select good, healthy, two-year-old trees and would not plant too deep, as your trees settle after planting. Dig your hole for the tree large enough that you can spread out the roots. Spade out one spade deep, putting the dirt in a pile, then take out another spade deep, putting the dirt in another pile. Now put in the first, or top dirt, making a cone in the center on which to set your tree, spread out the roots and fill in the rest of the dirt, lifting the tree slightly, at the same time tramp the drit well or fill with water to settle the drit well about the roots. I would not remove anything that grew the first year, as the young tree needs the shade which nature provides for it. If the body of the tree is shaded so that the bark will not sun-scald and the tree is kept growing thrifty, there will be little danger of the flatheaded borer getting into them.

Soil and Cultivation.—The apple does best on a deep, sandy loam, with clay subsoil. The slopes are preferable to the low or bottom land, which is cold and wet in the winter and bakes like a rock in summer. The soil should contain some iron to give good color to the fruit. The same general rules apply in cultivation that apply to all orchards: the soil should be deeply plowed at least once a year. This should be done before the rains are over, or it will remain more or less lumpy under the surface, and will dry out as deep as the plow went. A very good way is to cultivate before plowing, making the surface fine several inches deep; then plow, and the fine soil is turned under and the harrow pulverizes the rest. I like to have at least one good heavy rain after plowing, if not more. The cultivator or harrow should be kept going after every rain, and at least often enough to keep weeds down, and the surface loose and fine. It must be understood that it is not altogether the amount of plant food which is in the soil, but the amount of plant food which is made available for the trees which will determine the value of your crop. Lumps of dry soil are of no more value then so many rocks. It is the fine dust mulch which holds the moisture under it. Without moisture your tree will starve, no matter how rich your soil.

Pruning.—Just how much to prune and how to prune is a question on which many differ. There is in my opinion but one way to start your young tree, that is with a leader. The center should never be cut out. It can be cut back and should be, but it should be kept as the main body of the tree, and the branches should start from the body or trunk at a right angle and turn up. They should not all come out at the same place, like the pine, but at different places. This will give a tree which will never split. All forks should be cut out. This will apply to all apples. I do not believe the Bellflower should be pruned any more than you can help, after coming into bearing, while the Winesap or Smith Cider should be cut back to get good fruit. Every variety of apple requires different treatment, but I believe it is best not to let our trees get too high. Head back and let them spread. You can pick your fruit more easily; the wind won't blow off so much fruit; the trunk of the tree will be better protected, and less liable to sun-scald.

Codlin Moth.—The worst enemies of the apple are the codlin moth, woolly aphis or apple louse, pernicious scale and red spider, and last, but not least, the cricket or beetle, which bores the holes in our apples. The codlin moth is now being held in check where it has a foothold by spraying with London purple or Paris green, one pound to 180 gallons of water, not less than two, and better, three sprayings each season, the spraying to begin as soon as the blossoms have fallen and the fruit is well formed. By this means about 80% of the crop is saved.

Woolly Aphis and Other Pests.—For woolly aphis the ground should be removed from around the tree and gas lime or fresh lime or tobacco dust or leaves placed in the hollow, then filled with water sufficient to slack the lime, when covered with the earth, which has been removed. The amount of lime will depend upon size of your tree. Where the aphis is on the branches use a small paint brush and some coal oil, touching the effected parts. For pernicious, or what is commonly called San Jose scale, spraying with lime, sulphur and salt just before the buds swell in spring is probably the best remedy. For the red spider dry sulphur is probably the best remedy. The sulphur should be applied when the tree is damp with dew or fog, and when there is no wind blowing. The gas which is formed does the work. For the cricket or buy which bores the hole, I cannot say what is best. I am now trying lime, sulphur and salt. It is too early yet to say what effect it will have but I believe I will have less specked fruit this year. If such proves to be the case when the fruit is ready to gather we can easily find it out, and I am so sure that it will be, that I expect to spray my orchard next spring with lime, sulphur and salt.

THE VINEYARD.

Mr. Pfeffer's Choice of Resistant Vines.

To the Editor:—Replying to your request, my conclusions drawn from the study and experimentation with resistant vines are in substance as follows: No pure variety of the several species known to be resistant to phylloxera can be relied on to fully answer the requirements of an all around, perfect grafting stock.

Although a given variety may be satisfactory in a certain point, yet be defective in another, and since the variation of soils and the influence of the varying climatic conditions are so great in California, it is extremely hazardous to point out a single vine to the inquiring planter as the best resistant stock.

Hybrids, successful blends of two, three or more species—or, in other words, a combination of the good qualities of two, three or more vines—must theoretically be adaptable to a variety of soils and varying climatic conditions than a pure variety of this or that race of grapevines, and in practice this is found to be correct.

From the numerous hybrids tested in the nursery, on the grafting table as well as in the vineyard, I am fully satisfied that the following named vines, America, Solinrup, Salrupo, Rulrup, Rupert, Manito, and others, are, for their ease of propagation, readily taking vinifera scions, satisfactory bearing when grafted, admirably adapted for the majority of soils used for the culture of the grape in the bay counties at least, if not for the whole State.

West Side, Oct. 30. Wm. Pfeffer.

FRUIT PRESERVATION.

The Lemon from Tree to Packing House.

By Heman Copeland, at San Deigo Hortlcultural Society.

Ever since we have had any lemons to pick, the picker has been instructed, admonished and warned that he must handle the lemons like eggs, but he is not the only lemon handler that needs to be so carefully instructed and watched.

Why Care is Needed.—As is well known, the lemon needs the most careful attention after it leaves the tree. Why is it that such great care is needed? Because the rind of the lemon is so made that it is very susceptible to injury by abrasion, or anything that will in any way destroy the delicate oil cells of which it is composed. In the ripe lemon these oil cells are very much less delicate than in the green ones, and as the green ones have to be held longer than the ripe, it is highly important that they should have the most careful attention every time that they need to be handled, and the wise ones will be careful that all are handled the least number of times possible, for every time that the lemon is handled in whatever condition or position it may be in, there is a positive danger of injury, and those methods that will offer the least possibilities of harm are the methods that should be generally adopted and practised by all concerned.

Picking.—It has been the practise to pick our lemons about once every thirty days and of such sizes as will give us the greatest possible number of lemons that will pack 300 or 360 to the box. For sizing the fruit, the picker always carries a ring with him. At present we are using a ring measuring $2\frac{15}{16}$ inches inside diameter. Under altogether favorable conditions a large proportion of the fruit may be brought to such sizes, and some of it before it is ripe.

Whenever a lemon is known to be fully ripe, whatever may be its size, it should be picked from the tree. We should consider the general condition of the tree as to when and how we should pick its fruit. With unfavorable conditions lemons may turn yellow when very small, and the yellow color may be no indication of ripeness. With a return of continuous favorable conditions, these yellow lemons may come fully up to size in a reasonable time. This has been clearly demonstrated within the past year.

Sack or Basket.—The picker need not, and should not, handle the fruit but twice. Once as he clips it from the trees and puts it in a receptacle, that should be carried upon the person in such a way that he can easily and properly place it therein, and again when he removes the fruit from the picking sack, or whatever kind of receptacle he may use, to the ordinary field box.

Herein is where the greatest care of the picker is needed. Of course the same is true if one is useing the open bottom basket, as some do. We prefer the sack, as it is much more convenient for the picker to take about into any part of the tree, and I do not consider any receptacle proper that the picker cannot very conveniently carry on his person anywhere he may need to go. Whatever receptacle the picker may have it should be so used that no harm can come to the fruit while being emptied into the field boxes, and all that is required is for the picker to bend his back enough to allow the bottom of the sack to rest gently in the bottom of the box while emptying.

Some will go so far as to demand that lemons should be transferred by the hand to the field boxes, but I have observed that these people soon get careless in the operation, and not only often drop fruit more than it should be, but often toss it. Lemon pickers should not put too many into the sacks. Never more than one-half a field box, or about twenty pounds, at one time. Nor should the field boxes be filled too full, or so full that any harm can come to the fruit if the boxes are placed one above another. Equipped with clippers, the picker can easily make close, smooth, square cuts, which are very important, for stems cut otherwise may damage very much of the fruit.

Ladders.—If needed he should have suitable ladders. I have found a step-ladder with four solid legs the most practical, made light so the picker can readily

carry upon one arm from tree to tree, and when set upon the ground he can safely get upon it. It should be of such height that he may naturally stand upon the top of it, and thus he will have free access into the tree, and there will be no danger to the fruit in the sack.

Handling Field Boxes.—The common practise is to distribute field boxes through the orchards in quantities so that there will surely be enough to hold all the fruit, and then a team follows and picks up both the fruit and the empty boxes not used. As I consider that the fruit is in great danger as it goes from the orchard to the packing house, I trust I may be pardoned if I bring to your notice somewhat of the details of its transit. We have found the low-down wagons with suitable springs both economical and useful. The wheels have broad tires and the forward ones cut under. The width of the platform is just twice the length of the field boxes, and a load two boxes high is just fifty-two boxes of fruit, a good load for a team. On this wagon no side rails or end boards are needed.

All of these fifty-two boxes can be placed upon the wagon by the man standing upon the ground, thereby saving nearly a man's time during the loading or unloading of the fruit, and what is of vastly more importance, it wipes out one or two danger points. Let us see how many of these danger points we must have, that is, how many times we must handle the fruit before it is stored in the packing house, under favorable conditions. The picker has handled it twice. Now it must be taken from the ground to the wagon, then from the wagon to the warehouse truck, from the warehouse truck to the storage room. If you use the old style of wagon with the high rack, you add one or two more handlings, which are more dangerous than any of the three with the use of the low platform wagon, as you are cramped within the rack and have to pack the boxes at much greater height. Such a load rides much less smoothly, swaying about a great deal. If the fruit is to be carried by rail from the orchard to the packing house, one more handling must be added to either of the above methods.

We have seen that the picker handled the fruit twice and that, generally speaking, we will have to handle the field boxes of fruit four times to get it stored in the warehouse. After much careful observation, I am convinced that the dangers to which the lemon is subjected during these six operations are just about as represented by the number of times they are handled. That is, that it is reasonable to expect fully twice as much harm in the transportation of the fruit from the orchard to the packing house as from handling by the pickers.

Some of you have probably observed that more rotten lemons are generally found right upon the bottom of the field box than anywhere else therein. Very naturally, the picker has been blamed for this, with the idea that he has dropped the fruit too hard into the box, but I am more than convinced that if it is the fault of either the picker or the handler of the fruit in the boxes, it is two to one the fault of the latter.

The field boxes full of fruit weigh from fifty to fifty-five pounds. If you have no idea what it is to let that weight drop even 4 inches, just lift but one end of a box and let it drop freely upon your fingers, placed upon the top of the box below. Perhaps you may have some sympathy for the poor under dog of a lemon that is so unfortunate as to be in the bottom of the box, that may from any cause be dropped that distance.

Of course they should never be dropped any distance, but just laid gently one upon another. So we need strong, careful men for this work, and never a lazy man, for he will not only drop the weight of the fruit and box, but he will let a part of his own weight go with it as he puts the box down.

Kinds of Field Boxes.—We have been using a field box 11½ inches by 24½ inches by 9¼ inches deep, inside measure, with 1-inch cleats nailed across the top of each end for the purpose of free ventilation. These will hold from forty to fifty pounds of fruit, according as how full they are filled. They are of a very convenient size, shape and weight for handling. We have recently bored 4-inch holes in each side and nailed the bottom of the boxes for the purpose of giving freer circulation of air through the fruit, which we are fully convinced the lemons need.

Were I to make new field boxes for my own use I should make them entirely of slats, three for each side and the bottom, with open corners, leaving the crevices of such width as to give the freest circulation of air all through the fruit. There are several advantages in this slatted box. Lightness of weight, and if rains, dew or fog wets the fruit in the boxes, it will soon dry out when the conditions are favorable.

Who can say positively that injudicious care on the part of anyone is the reason that we find rotten lemons in the bottom of the field boxes? Surely I should not unless I was willing to admit that it was somebody's fault that the lemons were ever put into such a box. May it not be possible that our field boxes are not such as we should use, or that we may not yet practice the proper way to store our fruit for such time as we need to?

Keeping Quality of Lemons.—How often do we see people look with admiration at the wonderful lemon tree with the fruit buds putting forth; others in full bloom with fruit of every size from that of ½ inch to 2½ inches in diameter, and in every degree of ripeness, all upon the same tree. Finally they want to take away a few of these lemons as souvenir specimens. They put them in their pocket or grip or trunk, tote or roll them about till perhaps they are more than 3000 miles from here, laid upon some shelf or sideboard. Did you ever hear of any of these lemons rotting? I never did and I have asked that same question many times, always receiving a negative reply. I know a party that so picked a lemon here in San Deigo county thirteen years ago, and he has it with many other souvenirs to-day, it never having shown any signs of rotting, but simply dried up in the natural atmosphere.

Do you know of any fruit, unless it be the cacti, that will keep so long upon the tree or that will show so little rot after they drop upon the ground as will the lemon? How often have we seen small piles of cull lemons thrown carelessly upon the ground and lie there perhaps one or two seasons, and instead of having rotted, are simply dried up until they make fine fuel for the grate or stove. Even the pulp and rind of the lemons that come from the citric acid factory, after having passed between rollers, under enormous pressure, are spread upon the ground and dried, and then used for fuel in the boilers. Under such conditions there is little inclination toward decomposition, and if you place that same material in a box or pile, it will soon heat violently and decompose rapidly. Can we not learn something from these observations? It would seem that the All Wise Creative Mind made the lemon for a good keeper. May it not be the part of wisdom that men should keep nearer to nature and keep the lemon out of sweat boxes either great or small, hot or cold?

Conclusions.—After carefully studying and watching the experience of many in handling lemons, I am fully satisfied that we must use small shoal packages or field boxes so that the weight of fruit may not cause injury to those in the bottom of the box, that it may be easily handled, and, last but not least, so that there may be constant and free circulation of pure air through the box, whether in a wagon, car or packing house, until the rind of the lemon shall become in that condition that it may be packed for shipment without injury.

Please bear in mind that if proper care is used there will never be any violent sweating process for lemons thus treated, as we know is always is the case when put in close boxes and stacked up in close quarters, and it is this very sweating process that I believe should be absolutely avoided.

I wish to go so far into the packing house that I may plead that the lemon, naturally so beautifully aromatic, may, while kept there, have an abundance of the free and pure air of heaven. Just such air as we have right here. Just such air as the lemon has when growing upon the tree in the San Deigo bay region,—the most natural home for the lemon to be found in the United States, if not in the world.

THE DAIRY.

California Dairy Figures.

A large amount of data has been collected at the offices of the State Dairy Bureau, on California street, from which the *Call* makes the deduction that the total value of the various dairy products will be fully $12,500,000 for the year ending Oct. 1, 1899. This is in excess of the value for the preceding year of $2,000,000. The totals of dairy products, estimated in dollars, last year, were as follows. Value of 23,691,321 pounds of butter, $4,354,238; value of 5,148,372 pounds of cheese. $535,430; value of milk and cream consumed, $4,712,280; value of calves from dairy cows, $562,630; value of hogs produced at creameries and dairies, $748,895. The total of all items last year was $10,913,473.

The Dairy Bureau.—William Vanderbilt, agent and secretary of the State Dairy Bureau, has received a great number of reports from creameries, individuals and dairies during the past few weeks. His conclusion is that the returns will very closely correspond with the returns for the year ending Oct. 1, 1897. The exact total for 1897 was $12,451,363. In that year the butter produced in the State amounted to the very large total of 28,678,439 pounds, estimated to be worth $5,573,617; and the cheese was worth $569,566, the amount in pounds being 6,399,625. At the same time the milk and cream consumed was worth $4,669,480.

The Report.—The forthcoming report of the Bureau will show that the dairy properties in the San Joaquin valley are still increasing. Much dairy interest has been transferred from the coast counties, where it was formerly supposed to be placed for all time. The drought last year led to the sale of a great number of dairy herds to people in the San Joaquin valley, who, with irrigation and alfalfa crops, were able to find feed for all the cattle they bought. Five years ago the San Joaquin valley bought all its dairy supplies from the coast counties. Now there are numerous creameries in the valley. The same is true of the Sacramento valley to some extent. There is one creamery at Courtland, Sacramento county, that will show a total output of 405,400 pounds of butter for the year. There are creameries at Stockton, Lodi, Newman, Lathrop, Los Banos, Merced, Fresno, Porterville, Woodville, Tulare, Visalia and Bakersfield. Thus the line extends from one end of the valley to the other. The creamery at Fresno has twenty sub-stations already, and aims at a much larger number, the aim being to manufacture the dairy products for the county.

There are 262,000 dairy cows in the State, which, estimated at the very low valuation of $30 per head, are worth nearly $8,000,000. The creameries are worth at least half of that amount and the land used for dairying is roughly estimated to be worth four times as much as the dairy herds. Among the largest owners of dairy cows are the following: Charles Webb Howard, 1350; Shafter estate, 2200; Novato Land Co., 900; Phœbe Hearst, 1000.

THE STOCK YARD.

Grasses and Cattle.

To the Editor:—It has been said that the success or failure of the great cattle industry all through the prairie States depends upon the question of a sufficient supply of grasses and forage plants. In the sections where the land is in the highest state of cultivation, and where, in part, soiling is practiced as a method of feeding also, three acres of land will support five head of cattle the year through. In a few dairying sections, with liberal grain feeding with pasture, a single acre has fed a cow. But on grass and hay alone, from two to four acres are required, as a general rule, for a cow. With the valuable by-product of the beet sugar factory, less than half an acre can furnish hay enough when supplemented with pulp, at $1 per ton. So that, instead of requiring a square mile of land for 1000 cattle, 3000 can be reared and fattened year in and year out in the near reach of the factory.

Forage Plants.—Overstocking is ruinous to the nutritious grasses; but, by dividing the pastures and feeding them alternately, in conjunction with beets or beet pulp, or other by-products of the grains, the grasses will have ample opportunity to reseed themselves. Of the hundreds of kinds or species of grasses, we cultivate less than a tenth. The Year Book of 1896 says:

> There are sixty native species of clovers found in the United States; there are more than sixty kinds of blue grass, distinct botanical species; there are twenty or more good grazing grasses related to the buffalo grass; there are eighty or more native lupins, and forty vetches, which have yet to be tried in our agriculture; and then there are the brome grasses, meadow grasses, pasture grasses and hay grasses, almost numberless, suitable to every kind of soil, rock formation and climate.

Overstocking.—But no matter how many and how valuable the grasses, overstocking will destroy them, especially by overstocking with sheep, which feed too close on scanty pasture. But, a proper division of the pastures, together with frequent changes of stock, will husband the grasses and give them proper time to seed the land.

Not until we broaden the sugar beet industry can pulp be furnished to feed a thousandth part of our meat animals. Until then no farmer must rotate the wheat with root crops. Even free pasture can not furnish the quality and quantity of meat demanded.

Cultivated Crops.—Better cultivation will produce longer and better crops on less land. The farmers on the rich lands of the great West cannot afford to despise manure. With deep plowing and manuring beets, either for sugar or for feeding, will increase all the grain crops.

In the Far West the neglect of the oat crop is a misfortune or misunderstanding of its real value for human and animal food. Oat hay, or oats and peas hay is very much better than either barley or wheat hay. On barley hay I saw more sick horses in California than I ever saw before. By cutting the coarse hays moderately fine and feeding with bran or ground grain, greater feeding value will be realized; besides, the health of the horses will be maintained.

Feeding Suggestions—The coarse hays have a great deal of woody fiber, which would be more digestible by wetting the night feed after the noon feeding. Too little attention is given to horses, as a rule, in the far West. Even moistening cut barley hay would alone prove an economy in feeding horses, as well as a kindness, also. Too little attention is paid to ensilage, especially in the dairy. The feeding stuffs, like pulp in the beet sugar industry, will prove a genuine economy to the miller, as well as to the farmer.

Irrigation.—In all sections where the rains are deficient, irrigation will vastly increase production. In southern California water is the indispensable demand, and with it 100 acres is worth more than 500

acres without it. Settlers will do well to buy water with the land, or buy not at all.

Husbandry Instead of Ranging.—Sad loss of human and of animal life is of frequent occurrence year by year on the wild ranges of the mountain States. It is possible to avoid these calamities by making two blades of grass grow where but one grew before, or by raising a cow or a bullock or their equivalent of meat and wool producing animals to one cultivated acre, instead of one to four or five acres, perpetually menaced with fearful losses of human and animal life. Besides, this reasonable proposition is most appropriate to California, where, with water, grass grows every month in the year; whereas in the East provision must be made for four or five, or even six or seven, months of winter feeding. And yet, with proper cultivation and management, a cow or bullock or seven sheep can be fed on from one to one and a half acres.

The imperative necessity is more and more compelling agriculture to produce milk and meat near the centers of population. A. S. HEATH, M. D.

New York City.

THE FIELD.

Causes and Prevention of Fires.

By DANIEL FLINT of Sacramento at the University Farmers' Institute at Stockton.

I think it is conceded that fire is one of the most active elements in the destruction of property known. I think the larger percentage of fires are through pure carelessness; a great many, it is said, through spontaneous combustion, and the balance through unknown causes.

The keeping up of fire departments and insurance companies is another heavy expense on property holders, and any suggestion or invention that can be brought forward to prevent the fires should be welcomed with the greatest appreciation.

Although I have never met with serious loss of property by fire, I have been a witness of serious loss by friends and neighbors, and believe that a great percentage of these losses might have been prevented by proper care and precaution.

Milk Pail Fires.—I have been led to write this paper from a discovery made at one of my farm houses, which probably came very near its destruction by fire. As is customary with people after the milk pail is washed, it was hung up on the side of the house to sun and dry. It was a bright new pail and hung on the south side of the house where the sharp rays of the sun at midday had a full sweep at it for about three or four hours. As the bale hung on the nail the rim of the pail rested on the lower part of a rustic board. The rays of the sun formed a focus with the bright shining tin pail which struck the redwood rustic board, and each day burned a little more until a hole 2½ inches wide and about 4 inches long had been burned clear through the board.

As the person who did the milking took down the pail at night the angle of the sun would be changed, the fire out, and for a while not much notice was taken of it. As it continued to get larger and larger, the members of the household were called to it, but it was treated with ridicule until earnestness was used to call their attention to it, and then they saw how near they had come to a serious fire. It is hard to believe without seeing it that a tin pail and the sun would burn a hole through a redwood board, but since I have seen the effects I have made up my mind that the causes of a great many fires of farmers' houses are just from placing bright tins close to wooden buildings. Every few days we read in the papers of the loss by fire of farmers' houses, and the cause is given as unknown or incendiary, when if the facts could be known I have no doubt that a large percentage could be traced to the cause that I have enumerated above.

Other Causes.—Many a fire is caused by defective flues, old, rusty and worn-out pipe, the putting of wood too near chimneys. The throwing away of cigarettes when half smoked has caused many fires. I have no doubt but many a fire in stubble field, pasture and range was caused by the reflection of the sun on pieces of glass or tin. We frequently hear of fires caused by putting live coals in wooden receptacles.

There is another cause of fire which seems almost incredible, save to those that have been a witness to it, and that is the riding or driving of horses that are shod through a field of short, thick, dry grass. The iron shoes coming in contact with stones, throw off tremendous sparks of fire, as anyone that is accustomed to drive in the night will bear witness.

Matches in the Hops.—I think the hop grower has more fires than any other person engaged in the cultivation of the soil. A large percentage of the male hop pickers are inveterate smokers, and, consequently, they use a good many matches. In using the matches they frequently drop one in among the hops in the basket or box, and it is such a trifling thing to them they neglect to pick it out. When the hops with the match in them get on the drying floor and up to a certain heat the match ignites and sets the hops and drying cloth on fire. Several times my kilns have been found on fire, but discovered in the nick of time, and put out by smothering with sacks and water.

The Safety Match.—The insurance on hop kilns is very high, and perhaps justly so, and for the last several years I have been my own insurance agent. I procure what is called the safety match, which cannot be lighted except on the box that they come in. The hops never get hot enough to light this match, and if put on a hot stove the wood will ignite as soon as the match. I require all the pickers to forfeit all the common sulphur matches to me and I make them a present of the safety match. I prevent smoking in the yards as far as I can. I have not had a fire in one of my four kilns since I adopted this method of insurance. This is the cheapest insurance that I know of. I have no buildings so poor that I can afford to have them burn for the insurance on them, and I believe the insurance should be about half rate for the persons that use the safety match.

The safety match is not expensive, and I think it would be a good investment for all manufacturing establishments to require its use about their premises. The common cheap sulphur match is a dangerous thing to have about, for the pressing of the foot or a slight friction will ignite it.

Campers' Fires.—There is one more cause of fires that I did not mention in its proper place. It is the fire of the campers which, left alive, causes so much loss every year. I think a bill should be passed by the next Legislature requiring every camping party to register at the County Clerk's office, procure a certificate of the number in his party, number of animals, and destination, and have this certificate registered in the Clerk's office (or Justice of Peace) in each county that they pass through or into. This certificate should contain very strong language in regard to where fires should be built and in the manner of putting them out. I believe if such a system could be put in force but a small percentage of fires would happen to what does occur every year.

Watchfulness.—Every person who has property, or neighbor who has buildings subject to be destroyed by fire, should put forth every effort possible to remove such a contingency. A short time ago a valuable mill, with thousands of dollars worth of machinery and lumber, was destroyed by fire in Sacramento, proving a total loss, because the watchman left half an hour before the engineer put in an appearance. A strong wind blew the sparks from the furnace into a pile of shavings that were stored too close to the boiler, and got such a headway in the dry lumber and building that the firemen could not subdue it.

Harvest hands will smoke whether hot or cold, and would it not be a wise precaution to use nothing but the safety match during the harvest season? As an adjunct to the safety match, I would suggest that farmers offer as a prize to the veteran smokers a clay or cob pipe as a substitute for the destructive and offensive cigarette.

Vineyard Fertilizer.

TO THE EDITOR:—What is the best fertilizer for muscat vineyard on soil including some white ash, some alkali, some sandy loam, such variety as abounds in Fresno? The vineyard is fifteen years old and has never been fertilized. When younger it produced abundantly, and fine fruit. The ground is subirrigated where hardpan does not interfere. The water level is from 7 to 9 feet, according to season. Where can I procure the required fertilizer? When is the best time to apply, and how?—OLD SUBSCRIBER, Malaga.

The vineyard probably needs a general tonic, such as is found in a complete fertilizer, and the sheep manure which is mined from old corrals in your county and ground finely is of that character. It has been quite widely used around Fresno and we believe with satisfactory results, except where the vines are suffering from too much water or too much alkali or something of that sort. If it is simply a case of lacking plant food, the sheep manure will start them up in good shape. Apply by surface scattering during the rainy season, say, half a ton to the acre.

ARRANGEMENTS are being made by the Signal Corps of the War Department to conduct elaborate experiments in wireless telegraphy. The experimenting will be conducted under the supervision of Col. Squier, the telegraphic expert of the corps. He will be aided by Mr. Marconi. It is proposed to go to some point along the seashore where the practicable utility of the wireless system may be fully demonstrated.—Electricity.

FORESTRY.

Prevention of Forest Fires.

This subject is constantly discussed in this State from various points of views, and naturally there are extreme and probably incorrect views on both sides. The following statement by H. S. Graves, Superintendent of Working Plans, Division of Forestry of the U. S. Department of Agriculture, shows what is thought of the matter from the forestry science side:

California is not the only State in which the annual burning of the forest is considered among the residents the best method of protecting the timber from heavy fires. In certain sections of the East, notably in the Atlantic pine belt, many owners of timber land make it a practice to burn over their land every spring soon after the snow melts and before the surface of the ground has become so dry that light fires cannot be kept under control. The object of this annual burning is to destroy the layer of leaves, twigs, etc., which has accumulated on the ground during the previous year. If the work is done soon after the snow melts, the ground is somewhat moist so that the fire burns slowly and can be kept under perfect control. The season of growth has not fairly started at this time and the fire is less liable to injure the timber than if the burning were done after the sap had begun to run.

To Protect the Old Trees.—Most land owners who treat their forests in this manner burn the entire area, merely with the view of protecting the standing timber. In this they are successful, but at the same time a large amount of young growth is destroyed. If the owner of an open pine forest wishes merely to save the standing timber without regard to the future value of the land, no better plan can be recommended than to burn the area every year in the manner just described. The ultimate effect on the forest is, however, disastrous.

Effects of Repeated Firing.—The effect of repeated fires on the productive power of forest land was studied in southern New Jersey in 1897 by Gifford Pinchot, the results of whose investigations have been published by the New Jersey Geological Survey. In this report it is shown that repeated fires, combined with steady cutting of merchantable timber, reduce the forest so completely that the land is practically worthless. Many figures are given to show that burned areas in New Jersey are producing not more than one-sixth of the amount of wood they might have yielded, and that the quality of the product is vastly inferior to what would have grown on unburned land. It is shown also that even this small amount of timber would not have grown were it not for the marvelous power of the pitch pine to resist fire and to sprout after the trees were killed back.

Firing by the Indians.—Careful observers in the Sierras report that there were formerly many open parks and meadows which, since the occupancy of the country by the whites, have been covered with forest trees. Knowing as we do that in former times the Indians burned the forest regularly, the inference must be drawn that these openings were caused by fire—in other words, that the forest was gradually becoming less dense in burned sections, and, on the edge of the timber belt, was probably gradually retreating from the prairies. It is obvious that if the young growth is constantly destroyed by fire, there will be no trees to replace the old specimens which die or are cut down.

The Government Policy.—In advocating the annual burning of the California forests the mountaineers are considering only the protection of the standing timber and are ignoring the future production for coming generations. A private owner may be justified in pursuing such a policy, but the Government or State must make provision for the future as well as for the present. A measure which destroys the foundation of the future forests must not be thought of for a moment on Federal lands, and some different method of protecting the forest from fire must be devised.

The mountaineers are entirely right in stating that the material, which accumulates on the ground where the land is not burned, makes a very hot fire, and that the danger would be lessened if there were areas where there is no inflammable material. No intelligent man would, however, advocate indiscriminate burning without men to control the fire.

If burning were resorted to at all as a protection against heavy fires, it should be confined to areas where there is no valuable young growth; but our belief is that it would be possible to organize a system of forest police which would be effective in protecting the standing timber, as well as the young growth.

Good for All of Them.

The PACIFIC RURAL PRESS is published in San Francisco at $2 00 per year. This journal has earned for itself a good name by its neat appearance and its practical good sense. The California farmers and gardeners can increase their profits by reading it carefully, to say nothing of what it may do for the women and children.—Garden, Farm and Home.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

VINTAGE SEASON ENDED.—Livermore *Herald*, Nov. 4: The vintage is fairly over, although Wente's and Wagoner's wineries are still receiving straggling lots. D. A. McNally is hauling the last of the product of the Oak Spring vineyard to the Wagoner winery, and a few wagonloads from the belated crop of the Tassajara valley are also coming in. The crop has been very short, even below the estimates early in the season. Every winery in the valley had trouble with the fermentation at the outset, but a little experimenting removed the difficulty, and after the first week no trouble was experienced. The quality of the season's output is said to be uniformly good. Through an experienced wine man, we are enabled to give a brief resume of the season's work. The California Wine Association, usually the heaviest buyer, did not open its doors this year, owing to the short crop. C. H. Wente was the most extensive buyer, having purchased the product of the principal outside vineyards. This, with his own grapes, kept his winery busy. The Wetmore-Bowen Co. report a very successful vintage at Cresta Blanca. They were able to secure sufficient outside grapes to make their usual quantity of wine, and finished operations last week. At the Olivina they had a very satisfactory season and are now making sweet wines and brandy. C. L. Crellin at Ruby Hill is distilling, having finished his wine making early. He is satisfied with the season's work. C. A. Bon had a short season at Mont Rouge, but such grapes as be handled were of high grade. A. Duval reports a successful season at Chateau Bellvue, notwithstanding the scarcity of grapes. The smaller growers have the same complaint; but, although their crop was short, they realized splendid prices.

Butte.

BIG COYOTE BOUNTY.—Gridley *Herald*: The offer of $10 reward for each coyote scalp by the farmers of the Central House section has attracted a professional coyote hunter named Wagner. He has two deer hounds, two fox hounds and a bull terrier. He captured twenty-eight coyotes in Sutter county last month.

HOLD-OVER ORANGES.—Oroville *Register*, Nov. 2: C. D. Dunn has some of the finest oranges grown in Oroville. While he has a number of choice varieties, he considers the Mediterranean Sweet the most delicious grown late in the season. He had some choice ones yesterday that were ripe last January, yet they are to-day in prime condition after hanging on the tree for ten months. The Navels and the seedlings have long passed their best condition and are dry and pithy compared to the Sweet, which is as juicy as a watermelon, as sweet as a lump of sugar and as firm and as solid as a baseball.

CITRUS CROP.—*Register*, Nov. 2: D. H. Hilton has estimated the quantity of oranges that will come into market within the next few weeks. He visited the Oroville Citrus Grove and places the crop at 7000 boxes. The trees are in superb condition. He drove through some Palermo groves and found the one owned by J. A. Lawrence to be in splendid condition and the trees loaded with fruit. E Boalt's orchard never showed to finer advantage and the trees are loaded down with large and fine fruit. He visited the handsome grove of A. J. Frost and estimates the crop at upwards of 2500 boxes. Wherever he went be saw large and thrifty trees, and these were all well loaded with fast-ripening oranges.

Fresno.

EARLY ORANGE SHIPMENTS.—Sanger *Herald*, Nov. 4: Porterville is again entitled to the honor of shipping the first carload of new crop oranges from this State, it having passed through Sanger en route to the East on Monday last. Sanger was a close second in the race, shipping a carload the next day to Pittsburg, Pennsylvania. Our first carload of oranges consisted of Navels from W. F. Rufert's orchard and Parson Browns from T. C. Douglass' orchard near Centerville. The fruit was just turning a bright yellow color when it was picked and will be well matured by the time it reaches market next week. The Sparr Fruit Co. of Lindsay was the consignor, and expects to ship two more carloads within the next few days. The Earl Fruit Co. ship thirty carloads from here during the next few weeks.

Glenn.

DECIDUOUS FRUIT SEASON ALMOST ENDED.—Orland *Register*, Nov. 3: The deciduous fruit season is nearly over; the last of the Tokay grapes are being picked, and those of inferior quality are being shipped to wineries. There is a small crop of apples. Pruning will commence a month earlier than usual. Oranges are commencing to color, and are looking well.

Kern.

SMALL CITRUS CROP.—Bakersfield *Californian*, Nov. 2: Owing to the scarcity of water this dry season, the orange crop at Tejon is almost a failure. It is the lightest yield in the life of the orchard.

OLD VINES PRODUCE ABUNDANTLY.—*Californian*, Nov. 2: Alfred Balaam, who resides near Farmersville, has 3¼ acres of land that were planted to Mission grapes more than forty years ago. These vines have produced ten tons of grapes to the acre this year.

ROAD ROLLER.—Bakersfield *Echo*: The newly invented road roller, by J. W. Fitzgerald, is said to be proving a great success. The exterior of the cylinder is set with heavy flat-headed spikes, 2¼x3, 5 inches long and 4 inches apart. When the heels of these steel spikes strike the ground they give a pressure something like the human foot. The roller weighs 200 pounds.

Los Angeles.

ESTIMATE OF CITRUS SHIPMENTS.—*Express*, Nov. 3: From an investigation of the situation and reports from every orange growing district as far south as San Diego, it is expected that the Riverside district, including the territory from Highgrove to Arlington, will produce 4600 cars; Redlands district, 2052 cars; San Bernardino, Rialto and Colton district, 400 cars; Corona district, 375 cars; the district from Los Angeles to North Cucamonga, 3800 cars; the district from Central avenue to Santa Monica, including Colegrove and all in Los Angeles county, will produce 125 cars; the Vernon and Aliso district, 1987 cars; the district from San Diego to San Juan Capistrano and Nestor, 550 cars; Santa Barbara and West Glendale, 250 cars; the district from Verduga Park to the county farm, along the line of the Terminal railroad in Los Angeles county, 150 cars. This will make the season's output 14,289 cars. The above estimates are based upon 363 boxes to the car, and include Navels, seedlings, Tangarines, grape fruit and Mandarines. The southern California lemon crop for the season will approximate 1200 cars. Orange shipments this year will be especially brisk. Active shipments from Highgrove will begin in about two weeks, which is sometime earlier than generally expected. Nearly all of the fruit will be in the Eastern market in time for consumption durin the holidays.

Marin.

LARGE CROP OF APPLES.—Petaluma *Argus*, Nov. 4: The fruit drier of the Novato Land Co. is still running on apples night and day. There was an enormous crop this season and many carloads of both dried and green fruit have been shipped, some going to foreign countries.

Mendocino.

HOP CROP.—Ukiah *Democrat*, Nov 4: The hop growers have finished baling their hops and the output for Ukiah valley is as follows: Horst Bros. 936 bales, Cunningham Bros. 1277, Sanford Bros. 331, Bevans & Bartlett 307, J. E. Holliday 118, M. Ford, 165, L. M. Ruddick 179, W. A. Ford 211, Zach Bartlett 184, Ed Howell 320, Otis Redemeyer 119, A J. Gibson 73, Marvin Luce 211, Ganter Bros. 128, W. E. Dutton 88, T. J. Fine 108, Stipp 95, W. D White 104, Huse Burke 162, R. McGarvey 190, Indians 39, G. T. Rhodes 103, Rippy Bros. 116, R. Clark 184, John Piner 111, Monte Banker 29, making a total of 5582 bales. This makes an aggregate of 1,125,000 pounds of dried hops, produced on 718 acres. At Hopland there are 175 acres, with an estimated output of over 1400 bales. There are fifty acres in Potter, with an output of 323 bales. Redwood has about fifteen acres, with 120 bales. In Anderson there are sixty acres, estimated at 400 bales. In the entire county there are over 1000 acres, the whole output amounting to about 8100 bales. The total number of dried pounds in the county amounts to 1,600,000. There is no industry in the county that costs as much in proportion as hops. The cost to put the entire crop on the market is fully 8 cents on the dried pound. A hop grower is at an expense of about $112.50 per acre before there are any returns.

Monterey.

AT THE SUGAR FACTORY.—Salinas *Index*, Nov. 2: The Spreckels' Sugar Factory has made an exceptionally fine run thus far. Up to the present time 71,000 tons of beets have been crushed and 10,300 tons of sugar produced. There is great rivalry between the day and night shifts as to which shall make the best record. The best run thus far in twelve hours was made recently, when 1470 tons of beets were sliced. The season's run will not end until about the middle of December.

LARGE POTATOES.—*Index*, Nov. 2: A potato of the Salinas Burbank variety was brought to this office which would be sufficient to make a meal for a large family. It is 13 inches long, 10 inches in circumference and weighs four pounds. This tuber was grown on the Carr ranch, and is not a solitary specimen, but was picked up from a large number of others in a long furrow. The potatoes raised on the ranch this season are large in size and will weigh from two to four and some five pounds each. The ranch was well irrigated, and shows what can be done by judicious irrigation.

FOR THE PARIS EXPOSITION.—Hollister *Bee*, Nov. 1: Monterey county will be represented by an exhibit of her leading industry at the Paris Exposition in 1900. The Spreckels' Sugar Co. have prepared and forwarded to San Francisco for shipment to Paris twenty-four large Egyptian jars, each 27 inches in length. These jars are filled with whole and sliced beets, pulp, thin juice, raw or brown sugar, granulated sugar, cube sugar, magma and other products of Salinas' big factory. There are also numerous photographs of the factory.

Placer.

ABUNDANCE OF WATER.—Auburn *Republican*, Nov. 3: Superintendant John Spalding reports that all the storage reservoirs of the South Yuba Water Company ar filled to overflowing: a thing almost unprecedented from the first storm of the season. The precipitation for October has been surpassed but once since 1849, and that was in 1889-90.

Pinmas.

BIG POTATOES.—Oroville *Register*, Nov. 2: American and Indian valleys are famous for all kinds of vegetables. We were presented this week with the King of Spuds. It weighed over six pounds and was nearly a foot in length. The big potato was grown on the ranch of J. W. Thompson of American valley.

Riverside.

ORANGE PRICES.—*Press*, Nov. 4: After deducting all expenses the Riverside Exchange paid the growers over $225,000 last season. Payments to associations averaged, for fancy Navels, $2.22 per box; for choice, $1.74, and for standards, 95c. The fancy seedlings brought net to the associations an average of $1.49 per box, and the fancy St. Michaels and Valencias more than the Navels.

San Bernardino.

SUGAR CAMPAIGN ENDED.—Chino *Champion*, Nov. 3: At 12:30 Tuesday morning a prolonged whistle from the sugar factory announced that the sugar manufacturing season was at an end. The campaign commenced on August 26th and the last beets were sliced on October 29th, making a campaign of sixty-five days. During that time there were sliced per day an average of 725 tons of beets. The sugar percentage was high, running much of the time over 17% and keeping well up to the last. The machinery was never stopped but for the regular cleaning. More than that, every pound of sugar made was marketable, none having to be remelted, and none but the highest quality going out. The following are some items furnished by the management: Tons beets sliced, 44,336; pounds sugar produced, 12,956,400; paid for beets, over $225,000; paid for labor, $60,000; men employed, 350; barrels oil used, 50,000; tons coke used, 900; tons lime rock used, 9000; sugar bags used, 129,664.

ORANGE PICKING BOXES.—Redlands *Facts*, Oct. 27: The Orange Growers' Association will this year use picking boxes made especially for the purpose, instead of having the packing boxes go out to the orchard. The new boxes for picking, of which 4000 are being made, are solid, or without space between the boards, have heavier material, but have no middle board. Upon the side the association name is stamped.

San Joaquin.

FARMING LANDS APPRECIATING IN VALUE.—S. F. *Chronicle*, Nov. 8: Agricultural lands are in better demand and at higher prices in San Joaquin and adjoining counties than for several years past. Increased yields and growing demand for farming products explain the improvement. Both the fruit and the grain crops of 1899 have been very satisfactory. In size the cereal crop exceeds that of any year since the industry was started in 1852. The warehouses are full, and grain is still on the farms seeking storage. Even with wheat at its low present price, the grain and fruit crops are estimated to constitute 25% of the taxable property of the county. Another significant fact in connection with the prosperity that reigns is that not over one-third of the grain stored is burdened with a loan. One of the consequences is that farming land is being bought up in quite a lively manner. Two or three recent transactions show that lands that had gone begging, or for which ridiculously small prices had been offered, now command much better figures.

San Luis Obispo.

STILL THRESHING.—San Miguel *Messenger*, Nov. 3: F. W. Wehner is running a threshing machine in Indian valley, where no threshing had been done before the rain. This machine is turning out about 400 sacks a day, and it is estimated that there are about 10,000 sacks to thresh in this valley.

Santa Barbara.

EARLY GRAIN.—Santa Maria *Times*: Joseph Ruppert of Garey has twenty acres of barley up and growing nicely. He seeded before the early rains. After this crop matures he will irrigate and plant another crop, potatoes or corn.

GRAIN HARVEST.—Santa Cruz *Argus*: H. W. Sawdey, the agent of the Pacific Coast Railway Co. at Los Olivos, writes that there have been received at that point this season so far 30,000 sacks of grain, and that when all comes in it is expected there will be about 35,000 sacks.

HEAVY GRAIN YIELD.—Santa Maria *Graphic*: Over thirty sacks of 105-pound weight has been the average yield of barley on the Guadalupe rancho this season.

LEMON SEASON CLOSED.—Santa Barbara *Press*: The lemon season closed November 1. There are very few lemons left at the present time, and it is possible to give a brief review of the year's business. The crop has been large, the quality of the fruit fair, and the prices lower than they should have been. The cool summer East injured the lemon trade, and the heavy importations from Italy, just double those of the previous year, tended to put the market flat on its back. Over 150 cars have been shipped from the county this season. Of these, Secretary Herbart says, about sixty cars went from the exchange packing house; Manager Rice of the Johnston Fruit Company places the shipment of that institution at about the same figure, and thirty-seven cars were sent out from the Crocker-Sperry ranch.

HORSES WENT SURF SWIMMING.—Santa Barbara *Press*: Juan Ontiveros, while driving a band of twenty-nine horses from the Suey ranch to the Newhall ranch recently, had quite an experience with them while rounding Rincon point on the beach. The leader took to the water and was followed by the others. They swam directly out to sea and Ontiveros remained helpless on the beach. He avers that the band went out a mile from shore. Only their heads were above water and when well out they looked like a flock of ducks skimming along the surface of the water. They finally turned and came ashore on the other side of the point, apparently much refreshed and in no way injured.

Santa Clara

PRUNE SHIPMENTS.—San Jose *Mercury*, Nov. 6: The Campbell drier is busy packing and shipping prunes to Europe. Shipments have been made to Belgium, Holland and Germany. Half of the season's crop has already left the warehouse, and a dividends of $10 per ton on prunes and $15 per ton on apricots has been distributed.

Santa Cruz.

FREAK APPLE TREE.—Watsonville *Pajaronian*, Nov. 2: L. N. Trumbly, of Corralitos, has a Newtown Pippin tree which made a strong freak showing this year. It blossomed in August while bearing fruit, and the second crop shows up from the size of a small marble to that of an egg. The tree has fully and partially developed Newtowns, and also blossoms.

APPLE ITEMS.—*Pajaronian*, Nov. 2: The drier owners have quit handling skins and cores. They say there is no profit in drying them. * * A carload of three-tier Bellefleurs was shipped by W. R. Keller this week for Eastern holiday trade. * * A carload of apples left here last Saturday for shipment to Manila. * * We are informed that a car will leave in a few days for Singapore, Asia. * * The picking season is getting well along to a close. Most of the orchard trees are bare of fruit, but there is a big showing of boxed fruit in the orchards. * * The Eastern apple shipments for the week ending Oct. 25th were 37 cars; for the week ending Nov. 1st, 37 cars; total for the season to date, 252 cars. * * A number of orchardists, who did not sell their fruit in a lump during the packers' buying season, have been disposing of their apples by weight. The sales have been most satisfactory to them.

Siskiyou.

CATTLE CARS SCARCE.—Yreka *Journal*: There are about 7,000 head of cattle along the line of the railroad in this county awaiting shipment, the holders endeavoring to get cars for hauling out but without success.

Solano.

SUISUN VALLEY FRUIT UNION.—Suisun *Republican*, Nov. 3: The annual meeting of the Suisun Valley Fruit Union was held last Saturday. Of the total number of shares—591—there were 481 represented It was reported that a movement was on foot to dispose of the property and discontinue the organization. Those who attended came prepared to overthrow any such attempt. They were so greatly in the majority the question was not brought up. Long before the members had assembled it was apparent that they were determined to stand together. Charles E. Barnes, W. H. Morrison, W. L. Clayton, F. A. Chadbourne and F. L. Gordon were elected directors for the ensuing year. W. H. Morrison was elected president, Charles E. Barnes vice-president and F. L. Gordon secretary.

Sonoma.

WOOL PRICES.—Cloverdale *Reveille*, Nov. 4: A table of prices received for wool during the past twenty-two years was kept by the late W. P. Ink. The highest price was 29 cents in 1880 and the lowest was 9 cents in 1896. These prices represent the spring clip. In 1894 fall wool brought only 7½ cents. The 1899 prices show a gradual increase and may be taken as a good indication that prices are on the upward tendency and looking towards a return of the good days of fifteen years.

Sutter.

TURKEYS DYING.—Marysville *Democrat*, Oct. 31: Around the base of Butte mountains usually many turkeys are raised, but the number this season will be small. In one place a farmer hatched about 1400, but half died. One other lost 300 out of 500 and others have lost in the same proportion. The owners say the disease is swell head, or turkey cholera.

Ventura.

BEAN CROP.—Hueneme *Herald*: The lima bean crop in the county is estimated at about one-third of an average crop. On a twenty-eight-acre piece of land near the river, Hugh Henry raised twenty-six tons of beans, which he sold for somewhat over $2000, but this is an exceptional yield.

Yuba.

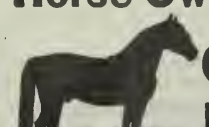
OLIVE CROP.—Marysville *Democrat*, Oct. 31: The gathering of the olive crop at the Colmena Colony Co. near Reed's station will begin this week. Where last year there was a crop of only four tons, the yield this year will be at least forty tons, and an expert has figured that the crop may reach sixty tons. The trees are eight years old and cover 100 acres, and from this time on will be expected to produce good results on the investment. This season's crop has been sold to J. J. Pratt of the Yuba City cannery, who will crush the smaller olives for oil and use the larger ones for pickling.

LARGE SWEET POTATOES.—Wheatland *Four Corners*, Oct. 28: J. M. Tindell brought to town two sweet potato hills which showed a growth of potatoes far above what might be expected. One hill of long, average sized spuds was shaped just like a bunch of bananas and weighed nearly thirteen pounds. The other hill weighed ten pounns.

OREGON.

HOP GROWERS' ASSOCIATION INCORPORATES.—Portland *Oregonian*, Nov. 1: The Oregon Hop Growers' Association, which was recently organized at Woodburn, filed articles of incorporation to-day. The capital is $8000, and the incorporators are: J. W. Hill, James Winstanley and George B. Hovenden.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

THE HOME CIRCLE.

Autumn Days.

Men may talk of the pleasures of winter,
With its freedom from care and from toil,
Which the season of nature's recruiting
Brings home to the tillers of soil.

They may rave of the beauties of springtime,
That season of beautiful flowers,
When earth is awakened from slumber
By sunshine and copious showers.

Their praise of the languorous summer
May waken to glorious lays
When touched by its warming impulses—
Its skies and its wonderful days.

But give me the generous autumn,
That feast of the husbandman's year,
When effort is crowned with fruition
And labor rewarded by cheer.

When cool and crisp air as a tonic,
To each respiration gives zest,
Through days when 'tis pleasure to labor,
Through nights when 'tis blissful to rest.

So linger, sweet Autumn, to bless us;
Halt, Time, in your onward career;
Stay, days of content and calm beauty—
The brightest and best of the year.

—Will Tempier.

A Sunset.

I have a vivid memory of a night
Blazoned by such a sunset as could feed
The rapt soul for a twelvemonth, were there need.
The sea was one vast plane of fluent light;
Colors, whereof the sky was guiltless quite,
Sprang out and glowed and melted into new
Strange harmonies unspeakable; faint blue,
Ethereal green and amethyst and bright,
Pale copper, topaz, amber, indigo,
And clear, transiucent ruby—such a show
As might be were all jewels of the earth
Dissolved in one great chalice. All alone
I watched the color pageant's splendid birth,
And watched it fade to soft, gray monotone.

—Julia Boynton Green in Overland.

Then came the autumn all in yellow clad,
As though he joy'd in his plenteous store,
Laden with fruits that made him laugh, full glad
That he had banish'd hunger, which t'fore
Had by the belly oft him pinched sore;
Upon his head a wreath, that was enroll'd
With ears of corn of every sort, he hore;
And in his hand a sickle he did hold,
To reap the ripen'd fruits the which the earth had yold.

—Edmund Spencer.

A Little Unpleasantness.

Written for the PACIFIC RURAL PRESS by JULIA H. S. BUGEIA.

When Helen Castell had made up her mind to marry a certain young man named Cameron, her friends looked at each other with prophetic glances—George Cameron being noted for his strength of purpose—that is, his intense stubbornness—and Helen, the worst little case of capriciousness and self-will they had ever known. Had her mother lived to rear her, she would have received better discipline, for Mrs. Castell had a gift that way; in fact—but let us forbear. Helen's father, though having had ample opportunity to learn his wife's method, had not profited by it; he was not a disciplinarian; indeed, the Castells, as a family, had "no government," and Mrs. Thoroughgood, his sister, who, with her son Jack came into the family at the time of Mrs. Castell's death, was as gentle and yielding as himself. Jack Thoroughgood, on the contrary, had no idea of being led around by the nose; yet, having a very ingenious way of influencing his pretty cousin without seeming to do so, there was never any warfare between them, and they were as fond of each other as brother and sister. After all, Helen was not altogether spoiled, for, having a fine nature, and a warm, true heart, she was really a most lovable girl. George Cameron thought so, and did not hesitate to undertake the responsibility of marrying her.

Mr. Castell shook his head and sighed, Mrs. Thoroughgood did the same, and Jack smiled, remarking that the sauciest, most obstreperous maidens usually made the meekest wives and vice versa.

In course of time they were married and commenced housekeeping in a handsome villa near Oakland. What beginning could be nearer perfect—youth, health, wealth and love, and always in sight of those purple hills and the broad, beautiful bay? Between Helen and the untamable sea was a bond of sympathy. She loved to watch the changing hues, the sparkle and the flash of the restless, beautiful waves, the circling flight of the seagulls, with their graceful wings and gleaming backs, and the white sails moving to and fro, touched with the red mists of morning gleaming in the golden midday sun, or rich with sunset hues. Like their calm sailing passed the first few months of Helen's married life. She was so much in love with her husthat she forgot herself. But one day, when she had become pretty well acquainted with him, and had lost somewhat of the awe with which she had at first regarded him, it was suggested to her—by one of those rapacious spirits that wander about seeking whose happiness they may devour—that she was not having her own way very much.

"But oh, dear!" said Miss Itoldyouso, in a tone that aroused that very spirit she was in search of, "we all knew how it would turn out. Some said you were more than a match for George Cameron, and would always keep your independence, but I knew you'd be just like the rest of 'em; little by little you'd give in, till you wouldn't dare to say your soul was your own, unless you'd heard him say so first."

"Nasty meddling!" commented Helen, when the door had closed upon her; but although she despised her, she could not help feeling uncomfortable at the thought that she was being ridiculed by her friends. From that moment the trouble began. George was disposed to yield to anything reasonable, but the tests she imposed upon him were too severe. Slight skirmishes arose, followed by regular battles, in which Helen was invariably defeated, and became, in consequence, bitter and defiant. Of couse they were both wrong, but upon the whole George behaved wisely, and said but little; the storming was mostly on Helen's side. She concluded, at last, that it was too much for her to endure.

"I am going home," she declared.

"Going home?"

"Yes, home—to papa, and Aunt Emily, and dear old Jack; I will not submit to such tyranny—no, not for another day!"

"You need not go to your father to escape me," answered George, calmly enough, although he grew rather pale and his hand shook a little. "I am going away, myself, and leave you here. perfectly free and independent."

"No, I won't stay here, I hate the place and all about it. I am going back to my own dear old home!"

"Very well, go where you please; you shall be provided for, and shall not be troubled by me. But, Helen, mark my words: your father's house does not contain your happiness. It will not seem to you as it used to; you have entered upon a new life, and you cannot retrace your steps. You were entirely happy with me until your vanity and self-will were aroused, and you determined to make my will subservient to yours. Were I meekly to submit to you, it would not make you happy. I should only become the despised slave of your caprice. Between husband and wife, it seems to me, there should be no thought of self, but each should look to the other's happiness. We shall never be happy apart; but go, you will have leisure to think of it undisturbed. You will learn the truth of what I say in homesick weeping."

"Weeping!" cried Helen, passionately; "as if I had not already shed tears enough to flood this—*home!*" with scornful emphasis upon the word.

"And yet," said her husband, "you do not know the meaning of homesick weeping. But I am going now. I will not intrude upon you again. Good bye, Helen." Here his voice trembled a little. "When you are ready to return, you will find me here, unchanged. Good bye."

He was gone. At his first "good bye" Helen felt an awful clutching sensation at her heart. I think she would suddenly have yielded but for the the unfortunate ending of his speech—"unchanged." That meant that she was to creep humbly back to her uncompromising lord and master—never!

Yet she was obliged to keep her rebellious thoughts pretty well exercised during her brief preparation; the house seemed filled with objects that appealed to her heart, and awakened the full tenderness of her love. She turned from them desperately and fled down the garden walk—where, again, her flowers seemed imploring her to stay—down the avenue of stately eucalyptus trees that sighed above her drooping head. She turned at the gate for one last look at the place she "hated." Oh! if there were but one tender look, or even gentle word of command, she thought, all should be forgiven. But no, she was free at last. There was not a shadow of restraint upon her. Ah, Helen, what tyrant so cruel as self-will! She entered the carriage, and bitterly weeping, was driven away.

At her father's she was made fondly welcome. Her father, although deeply regretting her step, and grieved at the unhappy result of what he felt must be her own bad management, still followed his old fashion of soothing and caressing her, instead of giving her a good, healthy chiding.

"She ought to be chastised and sent right back again," said a friend of the family who happened to be visiting them.

"It's all simple enough," said Jack. "She has come home to have her own way; let her have it until she is tired of it, that will happen sooner than you think. It's only a lover's quarrel, but she ought to suffer long enough to prevent her from repeating it, and, unless I'm much mistaken, George will give her plenty of time for repentance."

"I suppose, then," said Mr. Castell, with an approving twinkle in his pale blue eyes, "it is our policy to be as subservient as possible."

"Exactly," answered Jack; "get right down and let her walk over us."

At first Helen was quite touched by their extreme anxiety to serve her; but in a little while she wearied of it. Their "fussiness," as she termed it, annoyed her; their indulgence seemed disgraceful weakness; she contrasted it with the fine dignity of her husband, his tender courtesy toward her, his thoughtful attention that never became obtrusive. The more she reflected upon his character, the more she admired the very firmness against which she had rebelled. She blushed for her own silly behavior, but she was yet too stubborn to acknowledge it to him. "If he wants me to come back," she said to herself, let him ask." But alas, he never asked! Months passed, and not a word came to break the silence between them. Oh, how keenly she suffered! How she longed to fly to him and be forgiven. Nothing seemed quite the same to her at the old home. But the change was in herself, as George had said. She realized now how truly her life was bound to his. There was no other home for her but where he was. The homesick tears he had predicted came, night after night, until she was worn and pale, with "eyes like moons," as Jack observed.

"Helen," he said, one day, "I believe you are secretly pining for the old man. Strange how a woman will stick to her husband in spite of everything! Now I thought you had more spirit than to hanker after such a scoundrel."

It had been part of Jack's plan to speak disrespectfully of George. Helen always winced under it, to Jack's secret delight, and replied by speaking of him with an almost exaggerated respect. Upon this occasion her eyes flashed.

"Jack! how dare you speak of my husband in such terms? You are not worthy to—fasten his shoes."

"No, nor to pull on his boots; but I'll be hanged if I'll speak respectfully of a man that abuses his wife until she can't remain under the same roof with him, and has to come home to her father for protection."

"Protection!" cried Helen. "Perhaps you think he beat me! You know that George Cameron is too much of a gentleman to treat any lady with disrespect. If he did not weakly yield to my foolish whims and unreasonable demands it was because he was too wise—too truly tender. I behaved very foolishly, and I was the only one to blame. I see it all now; and in spite of all your kindness to me, I have been so unhappy here. Oh Jack, I'm so miserable—I want to go home!" She sobbed hysterically.

Jack was sure, now, that the trouble was ended. How he laughed! And since Helen's pride had yielded, she would not stop there any longer. She was impatient to begin her journey. She would not even stop to write. "I shall reach home as soon as a letter," she said.

"Well, cousin," said Jack at parting, "we have had a delightful visit, do come again?"

"Not till George can come with me," said Helen, smiling brightly.

"Oh, hang George!" cried Jack, turning away in apparent disgust.

But Helen only smiled again, she was going home—she cared for nothing else; oh, how her spirt flew on in advance, and hovered about the loved place, till at last she feasted her eyes on the familiar landscape, till wearied with excess of gladness she leaned in the carriage and closed her eyes. So near home at last! The carriage stopped, and springing out she went with flying feet up the great avenue to the open space in front of the house; but oh, what sight was there—the house in ruins! Broken and charred by fire it stood, a great black skeleton of a home, stretching out weird arms to the departing sunshine; the dismantled rooms seemed full of ghastly spirits that mocked at her consternation; the yard was strewn with fragments of furniture; bits of choice pictures and bric-a-brac stared at her from the debris; the trees were scorched and blackened, the roses bloomed, half withered, by the garden walls; about the house the once luxurious vines and flowers lay crushed and—bleeding it almost seemed to her excited fancy. Under the window of her sitting-room some pansies lifted little scarred faces and seemed to gaze at her reproachfully, here and there a pale daisy looked out, frightened, from the ruins. Alas, alas, her home—ruined and silent! The withered branches of the trees made shadows on the broken windows, waving her a last farewell. She felt as if it must be a dream; but no, there were the people hurrying up and down the road, there were the sunset tints just creeping up the sky, the sound of the wind in the trees, the sea-gulls hovering above the bay, the green waves curving and curling toward the shore, and far out a white sail, going almost out of sight as she watched it in a dull, despairing way. There were no tears now, the shock was too great. Faint and sick, she made her way to the carriage and sent the driver to make inquiries at the nearest house.

"Wall," said he on his return, "as near's I can find out, the gentleman's wife left him quite a spell back, then

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the house burned and she kind o' give up. She says he's gone to his folks to New York, and the place is fur sale."

Gone to New York—to his brother's, of course—and thither she would follow him. She found some comfort in the thought that she was his wife and had the right to follow him, if need be, around the world. People no longer talk of going to the end of the world—the jumping-off place. The next day she was on her way East. There was plenty of time for reflection during the long, lonely journey, and Helen's heart was filled with remorse. By the time she arrived in New York she was abject enough in look and manner to appeal to the hardest heart.

Trembling with fatigue and excitement, she was ushered into the presence of her sister-in-law.

"I am Helen, George's wife," she said, in a gasping, hysterical way.

"George's wife!"

"Yes. I came here to find him."

"Poor child," said Mrs. Cameron, gently. "You are so tired; sit down here and let me take off your bonnet."

"But where is George? I want to see George," she insisted nervously, feeling sure, from her sister's looks, that some fresh calamity awaited her.

"Poor child, George is not here; he left this morning for England. But don't fret about it, dear; we will telegraph him and have him back in a few weeks—by the time you are rested. Now cheer up."

But, instead of cheering up, Helen had fainted "dead away."

"When things are at their worst they mend." Things must have been at their worst with Helen, for when she unclosed her eyes again she fancied herself in the other world—the old world—there, bending anxiously over her, was George.

"Missed the steamer, and spent the morning with some friends," was his laconic explanation to his sister-in-law.

* * * * *

"Helen," said Jack, when he visited them in their new house—which was, in the broadest sense of the word, a new house built upon the ruins of the old one—"I am glad to see that you and George have outlived that little unpleasantness. Who is commander-in-chief now?"

"Well," said Helen, after a moment's consideration, and holding aloft the chubby young Cameron, "I haven't given the subject much thought lately, but it must be baby!"

Attempt the end, and never stand in doubt;
Nothing's so hard but search will find it out.
—Herrick.

"What do you charge to wash a shirt?" inquired the man at the counter in the laundry. "What kind of a shirt?" asked the clerk, with his mind on outing shirts, dress shirts, negligees and the various other possibilities in that line. "A dirty shirt," replied the man.

TEACHER—Billy, can you tell me the difference between caution and cowardice?

Billy—Yes, ma'am. When you're afraid yourself, then that's caution. But, when the other fellow's afraid, that's cowardice.

The woods strike up a melody;
Their tones are clear and rich.
The maple gives the sweetness
And the pine tree gives the pitch.
—Judge.

THERE are three methods of getting the news circulated, viz: Telegraph, Telephone and Tellawoman.

Remedial Foods.

Said an eminent physician: "If housewives would make a study of the medicinal properties of the vegetables, fruits, etc., which they serve, and act upon the knowledge thus gained, there would be far less need to summon the physician on every slight indisposition of some member of the family. Of course, this only applies to ailments in the incipient form, when, by prompt action, diseases may be warded off. The ounce of prevention in this, as in other cases, is far better than a pound of cure. When disease has fastened upon the system the only proper course is to employ the best physician procurable."

Those inclined to or suffering from rheumatic troubles should use celery, pieplant, all tart fruits, especially lemons and sour oranges.

One troubled with nervous disorders will be greatly benefited by using onions, turnips and celery. Onions are said to be almost the best nervine known. Nothing will so quickly relieve nervous prostration and tone up a worn-out system.

For kidney troubles use grapes, spinach and common dandelion, making a tea of the roots of the two latter, and taking tablespoonful doses several times a day, when the plants are not procurable for a relish. Buttermilk as a beverage is also beneficial. For disorders of the liver use tomatoes, onions, lemons and salt.

Insomnia is often cured by the use of either lettuce or onions. Use all kinds of fresh, ripe fruits to purify the blood and tone up the system. Blackberries and raspberries are tonics and useful in all forms of diarrhœa. Bananas are an excellent food for those suffering from that disease in chronic form.

Cranberries are used externally as well as internally for erysipelas, and figs—a most valuable remedy for those suffering with cancer—are used in the same way.

Garlic, olives, onions, peanuts and tomatoes promote digestion. The beaten yolk of an egg, with milk enough added to make it palatable, will be beneficial in cases of jaundice. Take morning and night. Also the beaten yolk with sugar is good to clear and strengthen the voice, and the beaten white with lemon juice and sugar will relieve hoarseness.

Elderberries are said to be a specific for dropsy. Spinach and onions will relieve those suffering with gravel. Carrots are good for asthmatic troubles; turnips, onions and salt for scurvy. Those who are troubled with diabetes should use foods devoid of sugar and starch. Peanuts are especially recommended for corpulent diabetes.

A chapter might be written on lemons, the free use of which often saves a good big doctor's bill. They are a sovereign remedy for cold, if taken in time. When a severe cold is felt coming on the patient should take a hot lemonade, made by squeezing and cutting one lemon into a half pint of boiling water. Add a very little sugar to make it palatable, drink and go to bed, covering up warmly to induce a gentle perspiration. For feverish thirst in sickness, biliousness, low fevers, rheumatism, liver troubles, etc., they are almost invaluable.

For constipation two simple procedures will usually restore normal action to the bowels. Drink a pint of cold water before breakfast, in little sips, taking at least twenty minutes. Chew the food to a cream, so thoroughly that it cannot get into solid form again, but will blend with the digestive juices, particularly the bile, and remain fluid.

DOMESTIC ECONOMY.

Care of Household Linens.

Written for the PACIFIC RURAL PRESS.

Table linens should be a housewife's especial pride and they usually are, and it is wisest to mark all household linen either with a monogram or initial letter. The new way of perfuming the linen chests is really the old way, which dates back to our grandmothers' time, when they gathered the rose leaves and scattered them about among the linen pieces. For some years past the fashion has been to fill satchels with orris-root powder, but the sweetest linens I have run across have been kept as of old, with the scattered roses. Table linen, when laundered at home, should be carefully separated from the other clothes, and washed separately. Each tiny break or hole should be carefully mended with ravelings of linen, and all stains removed before they are washed. Pouring boiling water through the stains will prove successful. Another method our grandmothers used in washing table linens was to always use powdered borax in the water in which table linens were washed. It not only whitened them, but kept that soft texture which gives damask cloths so much distinction. Table linens should never be so soiled as to require much rubbing, and the borax cleanses quickly and enables one to wash table linens without much rubbing. This is really one of the secrets of success in laundering damask linens: to use the borax in the wash water. To select choice patterns of damask and to mark it prettily with your own embroidery, having monograms or family letter, with towels to match, and linen sheets, is a refined, pretty idea and gives dignity to any home. Unless the table linens are properly laundered, no matter how much money you have paid for them or how handsome they are, no one will ever discover it if they are washed to look yellow and starched stiff. You cannot set a table to look attractive without a snowy white tablecloth; hence it behooves every young housekeeper to learn the art of laundering table linens. All the flowers and silver and elegant china will do no good unless the fine damask cloth and napkins are just right. The old recipe for washing table linens is this: Dissolve a tablespoonful of borax in a bucketful of warm, soft water; rub enough white soap in it to make a good suds and wash each piece in it. Rub lightly between the hands until clean, then rinse through one water and dip in thin boiled starch which has been slightly blued.

S. H. H.

Domestic Hints.

SWEET APPLE PICKLE. — Make a syrup of three pounds of sugar and a quart of vinegar, add a teaspoonful of cloves, allspice and cinnamon each. Pare, core and quarter four pounds of firm, sweet apples, drop into the syrup, let simmer until tender, take up, put in jars, boil the syrup until low, pour over the fruit and seal.

CREAMED LOBSTER. — Prepare and and cut into dice sufficient lobster meat to measure one pint. Into a saucepan put one and one-half tablespoonfuls each of butter and flour and mix over the fire. Add a dash of cayenne, one-quarter of a teaspoonful of paprika, one-half of a teaspoonful of salt and, gradually, one cupful and a half of rich milk. Stir until smooth and creamy, add the lobster, cover and let stand without boiling at the side of the fire for ten minutes. Add one teaspoonful of lemon juice, taste to see that it is well seasoned, and serve in cups or on toast.

PLUM JELLY.—Put the plums, which may be either damsons, red or peach plums, into the preserving kettle, with water to cover. Heat slowly, and simmer until the plums will mash readily, then turn into a flannel jelly bag, and drip until the pulp is dry. Boil the juice rapidly twenty minutes, skimming often. Remove it from the fire, measure, and return it to the fire; as soon as soon as it boils again, add as many bowls of sugar as you have juice, and boil until it jellies, which will be fifteen or twenty minutes. Pour into tumblers, and stand aside two or three days, then cover with paper, and put in a cool, dry place.

COCOANUT CREAM.—Beat the whites of three eggs just enough to break the stringiness, add one cupful of milk and stir over the fire in a double boiler until as thick as custard. Soak one-third of a box of gelatine in one-third of a cupful of cold water; take the cooked custard from the fire, add the softened gelatine and stir until dissolved. Add five tablespoonfuls of sugar, stir again until dissolved and strain. Add one teaspoonful of vanilla and one cupful of freshly grated cocoanut and let stand until cold or beginning to set. Add one cupful of thick cream whipped to a solid froth, pour into a wetted mould and set on ice.

Hints to Housekeepers.

A quickly prepared breakfast dish is made by first frying bacon till it is partly done, then laying mushrooms in the fat and cooking both together.

An Italian way to give the touch of garlic to the salad is to rub a piece of bread with it and put it in the salad dish, where it lends its flavor through the dish as the salad is tossed.

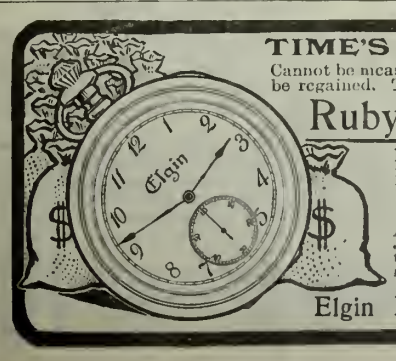
It is well to remember that cold string beans served on lettuce leaves, with mayonnaise dressing, make an excellent salad. Bits of boiled cauliflower are also very good used in the same way.

Kerosene applied with a soft cloth, preferably one of old silk or linen, should remove the marks of hot dishes from the polished surface of a dining table. If it does not, rub each spot with spirits of camphor and afterwards with furniture polish.

The newest method of marking handkerchiefs and linen is dainty and artistic enough to become popular in a short time. Instead of the initial or monogram, the owner's favorite flower is embroidered in one corner of the mouchoir or tablecloth, or engraved on the stationery.

A delicious hot gingerbread was served at a home luncheon the other day. It was fresh from the oven, spicy and tender, and, on being broken, it proved to be full of almonds. They had been split into halves, so as not to be heavy enough to sink to the bottom of the dough during the cooling process. The combination of flavors is to be recommended.

An eminent physician claims that many vegetables supply the iron that is the basis of most tonics in a much more effective form. Spinach, apples, lentils, beans, peas, strawberries, potatoes, beets and currants, all contain the mineral without the admixtures that make so many medicines harmful. Stewed black currants eaten daily through their season will cure anæmia, and potatoes are a specific for scurvy.



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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 8, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	70 @69¼	73¾@73¼
Thursday	68⅛@69⅛	72¼@73¼
Friday	69⅛@68¼	73⅛@72¼
Saturday	68 @68½	72 @72½
Monday	68¼@69	72¾@72⅞
Tuesday	68¾@69¼	72¾@73⅛

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	5s 10¾d	6s 0¼d
Thursday	5s 10½d	5s 11⅞d
Friday	5s 10⅜d	5s 11⅞d
Saturday	5s 10½d	5s 11¾d
Monday	5s 10⅜d	6s 0⅛d
Tuesday	5s 11¼d	6s 0⅜d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 07¼@1 07⅞	1 14⅝@1 15
Friday	1 08 @1 06⅞	1 15¼@1 14
Saturday	1 06¾@1 07⅜	1 14 @1 14½
Monday	1 07⅜@1 07⅜	1 14⅝@1 15½
Tuesday	1 07⅝@1 08	1 14⅞@1 15¼
Wednesday	1 07 @1 06⅝	1 14¼@1 13⅝

Wheat.

As was to have been expected, the wheat market since last review has continued unfavorable to sellers. Quotable values for shipping wheat have been reduced 25c. per ton. On milling grades values are not so clearly defined. On buying orders, select milling would probably command as much as a week ago, but on selling pressure, 25@50c per ton less than recent rates would have to be accepted. In speculative values there was practically no change in the English market, but Chicago declined about 2c. per bushel. On the local Call Board the fluctuations were not marked in the early part of the week, half a cent more than covering the depreciation for the week up to and including yesterday in either December or May wheat.. Today (Wednesday) with rainy weather, and with weak Eastern and foreign markets, options have declined over a cent.

There is nothing at this date to warrant anticipating much activity in the local wheat market during the balance of the calendar year. All indications at the moment are for a dull and unsatisfactory trade for some weeks to come. With only light inquiry from Europe, with inadequate transportation facilities for the time being, both by land and sea, accompanied by high freight rates, with wheat in the Southern hemisphere still offering for export from last winter's crop, with the visible supply in this country showing increase, and with prospects good at this early date for the coming yield in the United States, not only on this coast, but also in the great wheat districts east of the Rockies, it is difficult to see how the market can develop much strength in the near future. The unexpected, however, often happens and it is hoped that it may do so in this case. One full cargo of wheat lately cleared for South Africa, and one or two ships now on the engaged list may take wheat for same destination, but it is not likely that the movement from here to Cape Town or Delgoa Bay, the latter being the port for the Transvaal, will prove very heavy. It may prove sufficiently large, however, to prevent the market for a brief time from seriously sagging. Two years ago the shipments of wheat from this coast to South Africa were of very fair proportions and for several months the above quarter proved a better market than did Europe. Only select milling wheat was wanted, however, for this South African trade, while Europe gets very little of our choicest wheat, the latter going mainly to local millers. European and more particularly English millers do a great deal of wheat blending, mixing grain from all parts of the world to produce certain results. California wheat, as also the product of Australia and the Argentine, is used largely to impart tone and light color to the flour made principally from the dark wheats of Europe and India.

In such times of dullness and depression like the present, it is not uncommon for the farmer to be advised to sell his wheat and "go long" on the speculative market for a like amount, that is, to buy Dec. or May wheat instead of actual holdings. At present, of course, May would be the preferable option, as the Dec. option will soon mature. But no farmer who ever becomes posted on the inner workings of Call Board dealings will ever attempt this style of operating. It is just the reverse of the manner of doing business by the successful manipulators on Call Board, the warehouse men, the elevator men and shippers. They sell on Call Board against actual grain in their possession, making a profit as soon as the grain is sold. If the market goes higher, they cannot be termed losers, as their transaction has been already practically closed and their profit made. If the market declines, they can buy in their contracts at a further profit, and still have their wheat to back future sales they may see fit to make against these holdings. If the farmer sells his wheat and then buys options, he is left wholly at the mercy of the fickleness of the market, and in nine times out of ten will be badly worsted.

California Milling	$1 05	@1 10
Cal. No. 1 shipping, alongside	1 03¾	@1 05
Oregon Valley	1 02½	@1 08¾
Walla Walla Blue Stem	1 02½	@1 10
Walla Walla Club	1 02½	@1 07½
Off qualities wheat	1 00	@1 05

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.08@1.06⅝.

May, 1900, delivery, $1.15¼@1.13⅝.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.07@1.06⅝; May, 1900, $1.14¼@1.13⅝.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	7s0d@7s1d	6s2½d@—s—d
Freight rates	25@27½s	33¾@36¼s
Local market	$1.20@1.22½	$1.03¾@1.06¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

LOCAL STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on October 1st and November 1st:

Tons—	October 1st.	Nov. 1st.
Wheat	216,843	*251,975
Barley	83,965	†93,816
Oats	4 030	4,339
Corn	120	212

* Including 163,907 tons at Port Costa, and 86,186 tons at Stockton.

†Including 50,790 tons at Port Costa, 28,136 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show an increase of 35,132 tons for month of Oct. A year ago there were 102,229 tons wheat in Call Board warehouses.

Flour.

The market is weak, with tendency of values to lower levels. There is no active trading, either on export account or for local use, buyers operating as lightly as their necessities will permit, anticipating easier rather than higher figures for flour in the near future. Supplies are of fair volume.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

There has been an easier tone to the market, mainly on account of the good crop prospects for coming season. Choice to select qualities, however, have not been obtainable at materially lower figures than have been lately current. Stocks of high grade barley have been reduced to rather small proportions, and it is not likely that there will be much of this sort on hand at the end of the season, even if the outward movement from this time forward proves of light volume. Another cargo of barley was cleared from this port on Saturday last, the British ship Claverdon taking for Belgium 63,723 centals, valued at $58,000. This brings the exports of barley for the season up to 110,000 tons, as against 8,500 tons a year ago, and 116,600 tons for corresponding period in 1897. Any weakness apparent in the market was confined mainly to common qualities. These being in fairly liberal supply, and having to depend almost entirely on local millers for custom, there was naturally not much competitive bidding to secure such stock. In the speculative market there was a little lower range of values that for a fortnight or more preceding, but business on Call Board was of small proportions, and is likely to so continue, if not throughout the season, at least until after the result of the reported corner in December contracts is definitely known. Barley options have never been in great favor with the majority of Call Board operators, as the market is governed almost wholly by local conditions, and is much more easily manipulated than is the speculative market for wheat.

Feed, No. 1 to choice	82½@	85
Feed, fair to good	75 @	80
Brewing, No. 1 to choice	90 @	97½
Chevalier, No. 1 to choice	1 05	@1 10
Chevalier, No. 2	— @	—

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 88@86¼c.

December, 1899, delivery, ——@——c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, 86¼c.

Oats.

This market has not developed any very important changes, so far as quotable values are concerned, since former review. Offerings were on the increase, and the demand hardly so active as a few weeks ago, but prices were, as a rule, well sustained, especially for choice to select qualities, the quantity of supplies of this sort being small, as compared with the aggregate of spot stocks. Most of the oats from Oregon and Washington are showing more or less damage from rain, and the bulk of present offerings is from above sections. The firmness which exists is mainly on strictly fancy white feed oats and on high-grade colored oats, suitable for seed, these descriptions commanding in a small way materially higher figures than are quotable.

White Oats, fancy feed	1 25	@	—
White, good to choice	1 15	@1	22½
White, poor to fair	1 07½	@1	12½
Gray, common to choice	1 10	@1	20
Milling	1 15	@1	25
Surprise, good to choice	—	@	—
Black Russian	95	@1	07½
Red	95	@1	20

Corn.

The business doing in this cereal is at generally firmer values. Trade is not brisk, which is more on account of limited offerings and the comparatively stiff figures demanded than to lack of inquiry. Local millers are carrying moderate stocks of Eastern, mostly Large Yellow. New crop California has thus far made a very slim showing. A little Small Yellow has come forward which was purchased to arrive, and brought fully as stiff figures as have been lately current on old corn of same variety.

Large White, good to choice	1 10	@1	12½
Large Yellow	1 10	@1	12½
Small Yellow	1 42½	@1	45
Eastern Mixed	1 00	@1	02½

Rye.

Values are without appreciable change, but market inclines more in favor of the selling than the buying interest. The British ship, Claverdon, sailing Monday for Antwerp, carried 11,800 centals of rye, valued at $11,200.

Good to choice, new	1 00	@1	02½

Buckwheat.

There were received this week, 297 centals, being the first arrival for over a month. Previous receipts of this cereal for the season foot up only 134 centals. Market shows no weakness, the demand being ahead of the supply.

Good to choice	2 15	@2	25
Silverskin	—	@	—

Beans.

Considering the recent sharp advance in values for most kinds of beans, and the comparatively high levels at which prices are now established, there is a very fair amount of business doing, mainly on Eastern account, and largely in white varieties and Limas. Supplies should now be fairly liberal, as the new season has been open for a month or six weeks, but there are no special accumulations to record. With such a good showing at this early date, there is little or no likelihood of any pronounced weakness being manifested later on. At the same time, there is nothing to warrant anticipating prices being crowded to much higher levels later in the season, unless it be in a small way for seed qualities. Some varieties are now in such slim stock that they are hardly worthy of a quotation in a regular way, notable among these kinds being Pea and Butter beans, as also Reds and Black Eyes.

Pea, fair to good, 100 lbs	2 75	@3	00
Small White, good to choice	2 75	@3	00
Lady Washington	2 25	@2	40
Butter, small	3 75	@4	00
Butter, large	—	@—	
Pinks	2 25	@2	50
Bayos, good to choice	2 40	@2	65
Reds	3 75	@4	00
Red Kidneys	2 50	@2	75
Limas, good to choice	4 85	@—	
Black-eye Beans	4 50	@4	75
Horse Beans	—	@—	
Garbanzos, large	2 75	@3	00
Garbanzos, small	1 60	@1	75

Recent advices by mail from New York City give the following review of the bean market, price quoted being per 60-lb. bushel:

The market has suffered some reaction this week and is likely to be in a more or less unsettled condition for some time to come. Business of late has moved along in the most sluggish manner, exporters getting but few new orders and jobbers showing strong disposition to make no further purchases until they have worked off the stock on hand. Of the total receipts of 61 carloads, quite a quantity went to the Government to fill contracts, and a good many carloads were delivered to local buyers on previous sales, but the offerings were much in excess of all requirements and there is an accumulation on most of the docks Marrow have fallen rapidly to $2.15, and while some receivers are not disposed to accept that figure for favorite marks others are offering choice stock freely. A car or two of new Medium were jobbed out at $1.80, but toward the close some business has been done at $1 75. The relative scarcity of these goods helps to sustain the price. Pea have been urged to sale, and best new in bags are now easily bought at $1 65, and barrels at $1.70. Exporters have taken enough Red Kidney to keep stock sold up fairly, but there is a feeling that values are high and owners are disposed to use every outlet; the orders were filled at $2.45@2.50 f. o. b. for choice new, but local dealers will not buy at that figures. Very few White Kidney, Yellow Eye or Turtle Soup here. About 7,860 bags California Lima in this week, including some through consignments; trade has been quieter but bolders has asked late prices and made a few jobbing sales at $3.35. Green and Scotch peas have eased off a little in response to lower prices at the west, but the supply of spot goods is still light.

Dried Peas.

Offerings from first hands are meeting with custom about as rapidly as received, and good prices are being realized, market being firm at the quotations.

Green Peas, California	2 00	@2	10
Niles Peas	1 75	@	—

Wool.

The same active demand as last noted continues to be experienced in the local wool market, with values hardening, and every indication of a speedy clean-up being effected, provided asking rates are not crowded to higher levels than are warranted. Stocks here are of fair volume, but in the manner wools have been recently changing hands, a month or two more will see very heavy inroads made upon supplies, if they have not by that time wholly passed out of first hands. Much of the recent purchasing has been by speculative operators, both Eastern and local. Further shipments Eastward have been made the current week via Victoria and Canadian Pacific, in addition to a heavy movement to Eastern centers by direct overland route. In the East the markets are showing fully as much strength and more activity than here. Recent sales in Boston have been averaging over three million pounds per day. It is the exception when in active periods of the past this record has been beaten. It looks as though the wool trade had been at last successfully extricated from the Slough of Despond, in which it has been so long floundering, and was again substantially established on solid ground.

SPRING.		
Oregon Eastern, choice	12	@14
Oregon Eastern, fair to good	10	@12
Oregon Valley	15	@17
FALL.		
Humboldt and Mendocino	14	@15
Middle Counties	8	@10
Northern, free	9½	@11½
Northern defective	8	@10
Southern Mountain	7½	@ 8½
San Joaquin Plains	6½	@ 7½
San Joaquin Lamb	8	@ 9½

Hops.

A little more inquiry is observable and sales are being more readily effected than for some weeks past, but the demand is principally for select qualities and at low prices. It would require an exceedingly fancy hop at this date to command 12c, this being an extreme not warranted as a regular quotation. A moderate movement in most desirable qualities is looked for, but that the market will develop any particular firmness, or that common qualities will be especially sought after, even at low figures, is wholly improbable, as the supply of hops the world over is without doubt in excess of all probable requirements for the season. Choice to fancy hops may meet with a comparatively fair market during the next sixty or ninety days, but beyond this there is not much to be expected.

Good to choice, 1899 crop	8	@11	

The following review of the hop market is furnished, under late date, by a New York authority:

Our local market has shown very little change since last report. Fair business with brewers has been in progress all the week, and the tone of values has continued rather firm for choice grades, which comprise a small part of the supply. As usual at his season of year buyers are picking over the offerings and selecting out the finest growths. The bulk of the samples shown are of inferior to simply good qualities, and these are hard to place at anywhere near the price that owners had hoped to get. The fact is that there is a very wide range of quality in this season's crop, and there is every indication of a wide range of values in consequence. Some lots of Pacific coast hops are going through to London on direct consignments, but there is no buying on this market for export, and orders are not expected for some time to come. The English crop is a large one, fully 600,000 cwt, and probably more and the British brewers will take these in preference to going abroad for stock, except at a lower price. Cable advices report an advance in Germany of 3@4c on the better grades, and quite a firm market. In the interior of this State there has been quite a good deal of buying in range of 8@13c with the bulk of the business at 10@11c.

Hay and Straw.

Values are higher for choice hay which has been housed and shows no damage from rain, such being in good request and is not being offered very freely. The present advance is just about sufficient to cover the extra expense incurred in storing. Unless prices are moved further upward, so as to make it more of an object for owners of this kind of hay to forward it in greater quantity, there is not apt to be a surfeit of offerings. Common qualities and rain-damaged hay continues plentiful and cheap, with poor prospects of the market for this class hardening to any noteworthy extent very soon. Straw is not arriving freely, but there is enough to keep the market favorable to buyers.

Wheat	7 00	@10	00
Wheat and Oat	7 00	@ 9	50
Oat	6 50	@ 9	00
Barley	6 00	@ 7	00
Alfalfa	5 00	@ 7	00
Timothy	——	@ ——	
Compressed	7 00	@ 9	00
Straw, ₱ bale	25	@	40

Millstuffs.

Bran and Middlings are in slightly increased supply, with no corresponding improvement in the demand, and the market in consequence presents an easier tone, but in quotable rates there have been no marked reductions. Rolled Barley and Cracked Corn were held about as last quoted.

Bran, ₱ ton	17 00	@18	00
Middlings	18 50	@20	00
Shorts, Oregon	17 50	@18	50
Barley, Rolled	18 00	@18	50
Cornmeal	23 50	@24	00
Cracked Corn	24 50	@25	00

Seeds.

There is not much Mustard Seed of any description now remaining, either here or in the interior, and values are in consequence largely nominal. Flaxseed is not offering very freely, but market gives no evidence of being any firmner than last quoted. Alfalfa Seed is in light supply and market unfavorable to buyers.

	Per ctl.		
Mustard, Trieste	3 25	@3	50
Mustard, Yellow	4 25	@4	50
Flax	2 00	@2	25
	Per lb		
Canary	3½	@4	
Rape	2	@3	
Hemp	4	@4½	
Timothy	4	@4½	
Alfalfa, Utah	8½	@9	

Bags and Bagging.

Nothing of consequence doing in Grain Bags, and not likely to be any special movement until trading begins on next season's account, several months hence. Wool Sacks are quiet at unchanged figures. Business in Bean and Fruit Sacks is at present slow and there are few changes to record in quotations.

Calcutta Grain Bags	7	@	7½
San Francisco Grain bags, 22x36, spot	7	@	7¼
State Prison bags, per 100	—@—		
Wool sacks, 4 lb	—@30		
Wool sacks, 3½ lb	—@28		
Gunnies	—@12½		
Bean bags	4⅞	@	5¼
Fruit sacks, cotton	6¼	@	7

Hides, Pelts and Tallow.

While Hide market is strong, under light offerings, and is likely to remain so for some time to come, conservative dealers fail to see how prices can materially advance over existing stiff rates. Pelts rule steady. Tallow market is easier.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.		Culls.
Heavy Steers, over 56 lbs	11	@11½	10 @10½
Medium Steers, 48 to 56 lbs	10	@10½	9 @ 9½
Light Steers, under 48 lbs	9½	@10	9 @—
Heavy Cow Hides, over 50 lbs	9½	@10	9 @—
Light Cow Hides, under 50 lbs	9½	@10	9 @—
Wet Salted Kip	9½	@10	9 @—

Wet Salted Veal	9½@10	9	@—
Wet Salted Calf	10 @10½	9½	@10
Dry Hides	17 @—	13	@—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13	@—
Dry Calf, under 4 lbs	17 @—	14	@—
Salted Horse Hides, large	2 50	@	—
Salted Horse Hides, medium	2 00	@	—
Salted Horse Hides, small	1 00	@	—
Dry Horse Hides, large	2 00	@	—
Dry Horse Hides, small	75	@1	00
Dry Colts' Hides	50	@	75
Pelts, long wool, per skin	90	@1	25
Pelts, medium, per skin	60	@	75
Pelts, short wool, per skin	30	@	50
Pelts, shearling, per skin	20	@	35
Deer Skins, best summer	27½	@	30
Deer Skins, good medium	20	@	22½
Deer Skins, thin winter	—	@	10
Elk Hides	10	@	12
Tallow, good quality	4½	@	5
Tallow, No. 2	4	@	4½
Goat Skins, perfect	30	@	37½
Goat Skins, damaged	10	@	20
Kid Skins	5	@	10

Honey.

The market is ruling decidedly steady, especially for best qualities, with trade necessarily light, owing to quite limited supplies, both at this center and at interior producing points.

Extracted, White Liquid	7½	@ 8
Extracted, Light Amber	7	@ 7½
Extracted, Amber	5	@ 5½
White Comb, 1-lb frames	11½	@12½
Amber Comb	8	@10

Beeswax.

Not much coming forward from any quarter. No trouble is experienced in securing custom at rates quoted.

Good to choice, light, ℔ lb	26	@27
Dark	24	@25

Live Stock and Meats.

Market for Beef has continued much the same as preceding week, with very fair demand, and supplies not ahead of the requirements. Tendency on Veal was to a little lower range of values than lately current. Mutton ruled steady, and no changes of moment are looked for in prices of the near future. Lambs sold at fully as good figures as last quoted. Hogs were not quotably lower, but buying was only for immediate use, prices remaining too high for packers.

Beef, 1st quality, dressed, net ℔ lb	7	@ 7½
Beef, 2d quality	6½	@ 7
Beef, 3d quality	6	@ 6½
Mutton—ewes, 6½@7c; wethers	6½	@ 7
Hogs, hard grain fed, medium	5½	@ 5⅝
Hogs, small, fat	5⅜	@ 5½
Hogs, large hard	5⅛	@ 5¼
Hogs, acorn-fed	—	@—
Hogs, feeders	5	@ 5½
Hogs, country dressed	5¾	@ 6
Veal, small, ℔ lb	7	@ 9
Veal, large, ℔ lb	8	@—
Lamb, spring, ℔ lb	8	@ 8½

Poultry.

This market has not changed materially for the better since last report. The fight among receivers of Eastern poultry was still on, and while arrivals of Eastern showed some reduction, there was still enough to keep prices at a low range. In the line of Chickens, fine Broilers and fat Hens were most sought after. Choice Young Turkeys were in fair request and give promise of meeting with a tolerably good market throughout the month.

Turkeys, Dressed, ℔ lb	16	@ 18
Turkeys, live young, ℔ lb	15	@ 16
Turkeys, live hens, ℔ lb	13	@ 15
Turkeys, live gobblers	13	@ 15
Hens, Cal., ℔ doz	4 00	@5 00
Roosters, old	4 00	@4 50
Roosters, young, (full-grown)	3 50	@4 00
Fryers	3 25	@3 50
Broilers, large	3 00	@3 25
Broilers, small	2 50	@3 00
Ducks, ℔ doz	4 00	@5 50
Geese, ℔ pair	1 50	@1 75
Goslings, ℔ pair	1 50	@1 75
Pigeons, Old, ℔ doz	1 12½	@1 25
Pigeons, Young	1 75	@2 00

Butter.

Market for fresh product has been in unsatisfactory shape for sellers, made worse than there was any necessity for, by the manipulation of some dealers who are out of packed stock, and are now interested in breaking prices as much as possible, so as to have a soft and low market at the opening of the coming packing season.

Creamery extras, ℔ lb	27	@—
Creamery firsts	25	@26
Creamery seconds	24	@25
Dairy select	24	@25
Dairy seconds	20	@22½
Dairy, soft and weedy	—	@—
Mixed store	14	@16
Creamery in tubs	18	@22
Pickled Roll	23	@25
Firkin, Cal., choice to select	19	@22½
Firkin, common to fair	16	@18

Cheese.

There is no weakness to record in the cheese market, either for domestic or imported product. Eastern full cream cheese is now held at 13½c at primary points, which means 16c laid down here, and to this must be added whatever profit the jobber makes. That prices will be very soon any more favorable to buyers is not anticipated.

California fancy flat, new	12	@—
California, good to choice	10½	@11½
California, fair to good	10	@11
California Cheddar		—@—
California, "Young Americas"	10½	@12½

Eggs.

While lacking in strength, the market has not changed much since last review in the matter of quotable rates. Choice to select fresh eggs were not in large receipt, but the demand for them at the prices lately asked was so light that very few were necessary to satisfy the inquiry. Some cold storage eggs are being shipped in here as fresh by interior packers, these eggs going mainly to retailers direct. There are heavy supplies of Eastern and local cold-storage eggs, which are being crowded to sale in some instances at less than cost.

California, select, large white and fresh	37½	@—
California, select, irregular color & size	32	@36
California, good to choice store	28	@32
Eastern, as to section and grading	20	@27
Eastern, cold storage	—	@—

Vegetables.

Market has continued quiet during the week under review for most vegetables now in season. There were no heavy offerings of any sort, and it was the exception where prices for choice to select qualities did not tend in favor of the selling and producing interest. Choice Onions were very steadily held. Tomatoes did not bring materially better figures than preceding week.

Beans, String, ℔ lb	4	@ 5
Beans, Lima, ℔ lb	4	@ 5
Cabbage, choice garden, ℔ 100	50	@ 60
Cauliflower, ℔ doz	50	@ —
Cucumbers, Alameda, ℔ large box	40	@ 65
Egg Plant, ℔ box	40	@ 65
Garlic, new, ℔ lb	3½	@ 5
Mushrooms, Buttons, ℔ lb	15	@ —
Mushrooms, wild, ℔ box	5	@ 10
Okra, Green, ℔ box	65	@ 90
Onions, Yellow, good to choice, cental	60	@ 75
Peas, Sweet, Garden, ℔ lb	4	@ 5
Peppers, Green Chile, ℔ box	35	@ 60
Peppers, Bell, ℔ large box	50	@ 85
Squash, Marrowfat, ℔ ton	7 00	@12 00
Squash, Summer, ℔ box	75	@ 1 00
Tomatoes, River, ℔ box	20	@ 30
Tomatoes, Bay, ℔ box	25	@ 40

Potatoes.

The quotable range of values for potatoes is considerably wider than at date of last review. Choice to fancy Burbanks were in limited supply and were favored with a tolerably firm market, while common qualities were in more than ample stock for immediate needs, causing market for this sort to incline in favor of buyers. Oregon Burbanks are coming forward in increased quantity, Monday's Portland steamer bringing 2700 sacks. Sweets were in very fair supply and market was barely steady.

Burbanks, River, ℔ cental	50	@ 70
Burbanks, Bay counties, ℔ ctl	—	@ —
Burbanks, Humboldt	70	@1 05
Burbanks, Oregon	70	@1 05
River Reds	50	@ 65
Early Rose	—	@ —
Garnet Chile	—	@ —
Burbanks, Salinas, ℔ cental	1 00	@1 25
Sweet River, ℔ cental	75	@1 00
Sweet Merced	1 00	@1 25

The Fruit Market.

Fresh Fruits.

The market for fresh fruits of the deciduous kinds now offering has not changed to any great extent since last review. Apples continue in fair supply, but the proportion of strictly choice to select is far from being large. For fancy qualities, 4 tiers to the box, the market is firm at $1.00@1.25 wholesale, and small transfers are made at an advance of 10@25c per box on above figures, according to quality and quantity. The market for Apples of medium and lower grades does not display any special strength, such being in more than ample supply for immediate requirements. Most buyers refuse to handle very poor qualities, even at lowest quotations. Pears are not offering in heavy quantity, particularly desirable table fruit, such as select Winter Nelis, these being readily salable at $1.00@1.25 per regular size box. Cooking Pears sell in rather slow fashion and mainly within range of 50@75c per box. Quinces are on market in fairly liberal supply, considering the limited demand for this fruit, and market is not particularly firm at the range of values quoted herewith. Some large open boxes sell at $1.00. Plums now on market are not very desirable and move slowly at former rates. Grapes show reduced supply, with only a small proportion of present offerings of desirable quality. For good to choice stock the market presents a little better tone than at date of last review. Persimmons are offering in moderate quantity at unchanged figures, and not many are required to satisfy the demand. Pomegranates move slowly, and have to depend mainly on our foreign population for a market. Strawberries of the large varieties are still in fair receipt and are going at quite reasonable figures. Raspberries arrived in only small quantity, but there was no advance in prices. Whortleberries were in slim supply and in very limited request. Oregon Cranberries make a fair display and are held mainly at $1 75@2.00 per bushel box. Eastern Cranberries range up to $9 25 per barrel, the latter being close to cost figure of some stock now nearly due.

Apples, fancy, ℔ 50-lb. box	—@	—
Apples, fancy, 4-tier box	1 00@	1 25
Apples, good to choice, ℔ 50-lb. box	75@	90
Apples, Green, common to fair, ℔ 50-lb. box	25@	50
Grapes, Black, ℔ crate	30@	60
Grapes, Fontainebleau, ℔ crate	—@	—
Grapes, Muscat, ℔ crate	30@	60
Grapes, Tokay, ℔ box, 25@50c; ℔ crate	30@	60
Grapes, Seedless, ℔ box, —@—; ℔ crate	—@	—
Grapes, Cornichon, ℔ crate	50@	75
Pears, Winter Nelis, ℔ box	75@	1 25
Pears, cooking varieties, ℔ box	50@	75
Persimmons, ℔ box	75@	1 00
Plums, ℔ box	60@	75
Pomegranates, ℔ box	50@	75
Quinces, ℔ box	50@	75
Raspberries, ℔ chest	5 00@	7 00
Strawberries, Large, ℔ chest	2 50@	5 00
Whortleberries, ℔ lb	5@	7

Dried Fruits.

The market for cured and evaporated fruits has been ruling quiet since last report, when compared with the active condition of trade in this line about a fortnight ago. Quotable values of most kinds and asking rates of jobbers are without particular change, but the market for Unpeeled Peaches and Pitted Plums presents an easier tone, sales not being possible from first hands at the extreme figures of a week or two ago. Peeled Peaches are scarce and choice would probably bring more than quotations. Apples continue to command good prices, with light supplies, and a fairly active demand, both on local and foreign account. The Fig market tends in favor of buyers for the ordinary run of offerings, supplies being rather liberal and foreign competition having to be met. On fancy stock, especially desirable for holiday trade, prices show no appreciable weakening. Apricots and Pears are virtually out of first hands and stocks held by jobbers are so light that present quotations for these fruits are largely nominal. The Prune market shows weakness, with slow movement. Buyers have reduced bids a quarter to half a cent on all but the small sizes, and of the latter there are so few obtainable that they may be said to be virtually out of market. This is ordinarily a quiet time in the Prune trade, and not much revival of business can be confidently looked for in this line until after the mid-winter holidays, although the lower prices quoted may induce operators to take hold earlier and more freely than they would under less favorable conditions. Aside from Prunes there will be no large stocks of dried fruit carried over into the new year.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@12½
Apricots, Royal, fancy	12½	@13½
Apricots, Moorpark	13	@15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½	@ 8
Apples, 50-lb. boxes, rings, pressed, good to choice	7	@ 7½
Figs, White, fancy pressed	8½	@ 9½
Peaches, unpeeled, good to choice	5½	@ 6½
Peaches, unpeeled, fancy	7½	@ 8½
Peaches, peeled, in boxes	12	@15
Pears, unpeeled Bartletts, halved, fancy	10	@11
Pears, halved, unpeeled Bartletts	8	@ 9
Pears, quartered, unpeeled Bartletts	7½	@ 8½
Plums, Black, pitted	6½	@ 7
Plums, White and Red, pitted	7½	@ 8
Prunes, in sacks, 40—50's	4	@ 4½
50—60's	3½	@ 3¾
60—70's	3¼	@ 3½
70—80's	3	@ 3¼
80—90's	2¾	@ 2¾
90—100's	2	@ 2½
110—130's	—@—	

Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	2¾	@ 3
4 sizes San Joaquin and Northern	2¼	@ 2½
Prunes, Silver	4	@ 7

COMMON SUN-DRIED.

Apples, sliced	4½	@ 5½
Apples, quartered	4½	@ 5½
Figs, Black	6	@ 6½
Figs, White	—@—	
Peaches, unpeeled	—@—	

Mail advices of recent date from New York City furnish the following report of the dried fruit market:

Offerings of evaporated apples have been larger this week and with trade less active, especially toward the close, market is a shade weaker though prices have not been shaded as yet. Speculators who are short of stock, especially futures, have tried to weaken the position by offering at lower prices for future delivery and sales have been made at 7½@7¾c for December. Sundried apples are in light supply and firmer. Chops dull but steady and cross and skins rule firm, though most sales from 1½@1⅝c. Raspberries, blackberries and cherries all firm and higher and huckleberries scarce and strong. California fruit, is good demand and firm.

Apricots, Cal. Moorpark, 1899, per lb	15	@17½
Apricots, Cal. Royal, 1899, per lb	13	@14
Peaches, Cal., 1899, unpeeled, in boxs. lb	8½	@ 9½
Peaches, Cal., 1899, unpeeled, in bags, lb	8	@ 9
Prunes, Cal., 1899, per lb	3½	@ 7½

Raisins.

Market remains firm for the standard grades. Deliveries are being retarded by the recent rains, and for same cause the proportion of lower grades will be larger than was generally estimated at the opening of the season. The Raisin Growers' Association is reported to have fixed prices for Pacifics or seconds at one-quarter cent below the quotations named for Standards.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ℔ box	$3 00	@—
Do do 5-crown, ℔ box	2 50	@—
Do do 4-crown, ℔ box	2 00	@—
Do do 3 crown, ℔ box	1 60	@—
Do do 2-crown, ℔ box	1 50	@—
Valencia layers, ℔ 20-lb box	80	@1 00

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	7	@ —
Loose Muscatel, 3-crown	6¼	@ —
Loose Muscatel, 2-crown	5½	@ —
Loose Muscatel, ungraded	—@	—

(Above prices for loose raisins are for 50-lb boxes.)

Dried Grapes	—@	—

Thompson Seedless.—Bleached fancy, ℔ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ℔ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ℔ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ℔ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Oranges of new crop are on market in quotable quantity, the first carload arriving Monday from Porterville. Small quantities were also received from Palermo, and a shipment was made East from latter point. The movement Eastward is expected to be of fairly liberal proportions in about a fortnight. Comparatively fancy figures are being realized, especially when quality is considered, as is usual with first arrivals. Lemons continue in excessive stock and are meeting with a weak market, quotations showing a reduction. Lime market remains quiet and favorable to consumers. Grape Fruit is offering in moderate quantity, but is not receiving much attention.

Oranges—Navels, ℔ box	3 00@	6 00
Cal. Seedlings	2 00@	3 50
Grape fruit, ℔ box	2 50@	4 00
Lemons—Cal., select, ℔ box	3 00@	3 50
Cal., good to choice	2 00@	3 00
Cal., common to good	1 00@	2 00
Limes—Mexican, ℔ box	4 00@	4 50
Cal., small box	—@	—

Nuts.

Almonds are so nearly out of stock that they are hardly quotable in a regular way. The inquiry is not so active, however, as a few weeks ago. For Shelled Almonds advanced figures are asked. Walnuts are in light supply and will likely be very soon cleaned up. Jobbers have marked up asking prices half a cent to one cent per lb. Peanut market is quite steady, with no excessive supplies of either domestic or Eastern.

California Almonds, shelled	22½	@28
California Almonds, paper shell, ℔ lb	12	@14
California Almonds, soft shell	10	@12
California Almonds, hard shell	7½	@ 8
Walnuts White, paper shell	—	@—
Walnuts White, soft shell	11	@11½
Walnuts White, Cal., standard	9½	@10½
Chestnuts, Cal. Italian	10	@12½
Peanuts, Cal., fair to prime	4½	@ 6
Peanuts, Eastern hand-picked	6	@ 7½
Pine Nuts	5	@ 8

Wine.

There is little or nothing doing in offerings from first hands. The 1898 vintage is now practically disposed of, so far as producers are interested, and this year's wine will not be ready for market until January, or about sixty days hence. Under existing conditions, values in the wholesale market cannot well be otherwise than nominal. For claret from one to three years old the quotations remain 15@20c per gallon, as to quality, etc., San Francisco delivery. It is believed the policy of the Wine Dealers' Association on this year's product will be to hold off the market, so far as soliciting from growers is concerned, taking wine only when they can name the terms, but what values the Association will fix remain to be determined.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ½-sks	120,789	1,880,521	1,682,526
Wheat, ctls	105 224	1,383,027	1,159,666
Barley, ctls	359,721	2,951,910	606,928
Oats, ctls	25,065	353,954	355,995
Corn ctls	610	44.195	70,505
Rye, ctls	12,310	74,367	13,050
Beans, sks	34,099	186,138	176,652
Potatoes, sks	40,637	431,535	415,651
Onions, sks	5,203	87,679	85,437
Hay, tons	3.196	74,105	68,987
Wool, bales	1,907	28,945	24,784
Hops, bales	357	5,297	7,201

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ½-sks	72,692	1,084,275	1,087,196
Wheat, ctls	80,092	1,049,870	581,653
Barley, ctls	298,126	2,128,248	168,473
Oats, ctls	1,333	18,675	11,044
Corn, ctls	462	6,025	7,339
Beans, sks	240	8,454	58,641
Hay, bales	1,259	38,598	25,498
Wool, lbs	129,999	1,261,047	913,103
Hops, lbs	79,477	431,472	646,532
Honey, cases	....	2,424	3,833
Potatoes, pkgs	877	21,865	19,784

California Dried Fruit at New York.

NEW YORK, Nov. 8.—California dried fruits; Market quiet and steady. Evaporated apples, common, 6@7c; prime wire tray, 7¾ 8c; choice, 8¼@8½c; fancy, 8¾@9c.

Prunes, 3½@8½c.

Apricots, Royal, 13@15c; Moorpark, 15@18c.

Peaches unpeeled, 7½@10c; peeled, 20@22c

R. Hall's Pulmonary Balsam,
For COUGHS and COLDS.
J. R. GATES & CO., Druggists,
417 Sansome St., San Francisco.

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BECAUSE they are made on correct principles, therefore give the best results. The Menzel Hardware Co. of Santa Clara, Cal., state that "they have put up a large number of pumps of all kinds this season, but yours give us and our customers the best satisfaction."
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Sept. 1st marked the introduction of the Improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators and these newest "Alpha" disc machines are simply unapproachable by anything else in the shape of a cream separator. Overwhelming as has been the conceded superiority of the De Laval machines heretofore their standard is now raised still higher and they are more than ever placed *in a class by themselves* as regards all possible competition. Send for new catalogue.

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44-46 Main Street, San Francisco.

Expected Meteoric Shower.

About the 14th or 15th inst. is expected the appearance that every thirty-three years takes place of millions of "falling stars." In 1800, 1833 and 1866 the phenomena were universally observable, and it is predicted that this year the November display will be unusually spectacular.

Since the first noted flight, in 1833, meteoric astronomy has been studied, and it has been found that the tracks of shooting stars seen on certain dates, when traced backward, point to a particular point of the heavens, or that meteors appear to radiate from a certain point among the stars, situated in the constellation of the Lion, on which account these shooting stars have been called Leonides or Leonids. None who behold the cataclysm of fire which will pour from the sky when the orbit of the Leonids intersects that of the earth will fail to bear forever in mind the memory of the spectacle. Every year a few scattered fragments of the shattered heavenly body are seen, but the appearance of the main groups is relatively rare.

The single meteor or meteorite which makes, when it strikes the atmosphere of the earth, the so-called shooting star is often a mere tramp of the heavens—the detached fragment of some burst planet, too small for observation with the best telescope, wandering in space until it comes within the circle of attraction of some larger body, when gravity causes it to fall. Generally in the course of its descent through the atmosphere of the larger body the meteorite generates so much heat that it is entirely consumed; but, if large enough, a part remains and strikes the earth. But neither the single meteor nor meteorite can be observed except in the brilliant illumion of its death.

The comet, on the contrary, is a creature of the skies more to be reckoned with; for, erratic as its wanderings may seem, in reality it pursues a definite course among the stars. The lengths of the orbit which comets travel vary from a few hundred millions of miles to thousands of billions. The time which different comets take in completing their orbits varies from three and one-half to a hundred thousand years. The preciseness of astronomical knowledge is such that the exact distance of one of these bodies moves in a second can be determined. Hence the time at which it will arrive at any given point in its orbit can be predicted to the second. As the Leonids are but the fragments of a former comet, and as those fragments are following the course pursued in bygone ages by that comet, there is nothing remarkable in the further statement that modern astronomers can predict the time at which the November meteoric showers will appear. The swarms of particles which formed the once glorious orb known as Tempel's comet now pursue in the outer darkness of space the identical path which they followed when parts of a composite whole.

This year the earth will strike the center of the comet, and on the principal night—which will probably be that of November 14th—the meteoric shower is expected to present a scene of beauty. Before midnight there will not be much to reward the watcher.

Reckoned by the figures of the heavens, the Leonids are but infants. According to Prof. Newcomb, Tempel's comet has been dead only 3300 years. The cause of explosion was probably the intense heat generated by the terrific rate at which the comet revolved. But for the fragments of the burning body there could be no rest. The forces which compelled the larger body to follow through countless ages a certain path were at work as well among the flying particles. They fell into line, the larger fragments taking the head of the line and the smaller particles falling in behind for a million miles and more, and the unending journey, interrupted for a while, was taken up again along the old path. The course of Tempel's comet and of its subsequent particles completely encircles the orbit of the earth, touching it only at one point on its outer edge. Continuing, it crosses the orbit of Jupiter and Saturn and extends a few millions of miles beyond that of Uranus. Its orbit is elliptical and twenty times as long as that of the earth.

No one is able to predict the exact hour at which the November meteoric showers will begin. Although these meteoroids revolve around the sun in a definite orbit, the point of that orbit's intersection with the orbit of the earth moves forward at the rate of one and one-half degrees a year, thus throwing the advent of the meteors a few hours later at each succeeding fall. For example, the fall of 1833 occurred on the night of November 13th; the fall of 1899 will take place on the evening of November 14th and probably will be of some hours' duration. It will be visible throughout the whole of the North American continent and in Europe and Asia. The November meteors receive the name of Leonids from the fact that they seem to pour out from that part of the heavens wherein is located the constellation of Leo. In weight these meteors vary from a few grains to many pounds. On striking the earth's atmosphere they begin to burn at the height of seventy-four miles and are generally entirely consumed at a height of fifty miles.

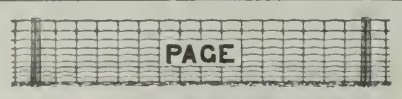
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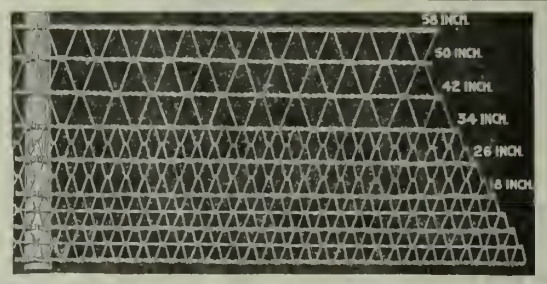


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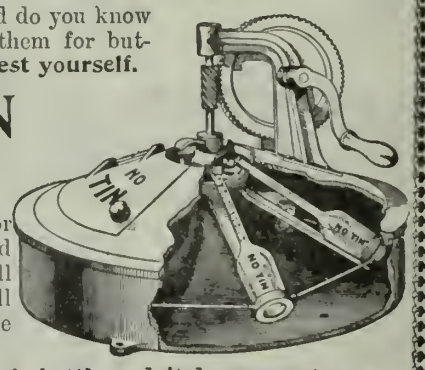
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is made in six-bottle size for farmer's use; it is driven by hand and is substantially built. Will last a life-time; fitted with ball bearings, and it does not rattle and does not wear out.

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TRIUMPH STEEL RANGE into every section of the United States, we will for a short time deliver at your depot free of charge our highest grade Steel range for $25.00. The regular retail price is $50.00. It has six 8-inch lids. Top cooking surface is 30x34 inches. Oven 12 inches high, 17 inches wide and 21¼ inches deep, and 15-gallon reservoir. Weight 400 lbs. Burns wood or coal. **Write for Free Descriptive Pamphlet. Best Range made. WM. G. WILLARD, Manufacturer, 619 N. Fourth St., St. Louis, Mo. Will ship C. O. D. with privilege of examination.**



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in every household. It is clean, tasteless and odorless—air, water and acid proof. Get a pound cake of it with a list of its many uses from your druggist or grocer. Sold everywhere. Made by STANDARD OIL CO.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 24, 1899.

635,642.—Grain Roller—E. Berg, Woodland, Cal.
635,652.—Smelting Furnace—J. H. Canavan, Kirkland, Ariz.
635,423.—Fruit Drying Tray—S. H. Chase, San Jose, Cal.
635,713.—Raisin Seeder—N. B. Converse, Fresno, Cal.
635,303.—Lubricant—F. T. Cook, Antelope, Or.
635,667.—Air Compressor—C. Cummings, S. F.
635,372.—Operating Mechanism—W. G. Dodd, S. F.
635,532.—Acetylene Gas Burner—F. C. Faxon, S. F.
635,378.—Telephone—J. B. Gill, S. F.
635,476.—Saw Filing Device—S. P. Gudmundson, S. F.
635,437.—Windows—B. Hausmann, S. F.
635,495.—Letter Opener—H. Markham, San Rafael, Cal.
635,586.—Assaying Furnace—Martin & Petter, Los Angeles.
635,412.—Discharge Gate for Tanks—C. W. Merrill, Alameda, Cal.
635,445.—Car Fender—W. Morck, Oakland, Cal.
635,341.—Door—J. Nash, Dayton, Wash.
635,504.—Water Lift—P. S. Nowacki, S. F.
635,390.—Pump—S. W. Rehart, Lakeview, Or.
635,516.—Air Compressor—J. P. Simmons, S. F.
635,517.—Air Compressor—J. P. Simmons, S. F.
635,703.—Steam Trap—J. St. Mary, S. F.
635,522.—Mining Apparatus—J. E. Stuart, Winchester, Cal.
635,619.—Soil Pipe—F. Walker, Los Angeles, Cal.
635,454.—Elevator—M. A. Wheaton, S. F.
635,456.—Gasoline Lamp—Wood & Eddy, Eugene, Or.

Note.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s Scientific Press U. S. and Foreign Patent Agency, the following are worthy of special mention:

Fruit Drying Trays.—S. H. Chase, San Jose, Cal. No. 635,423. Dated Oct. 24, 1899. The object of this invention is to provide improvements in trays which are designed for drying fruit by exposure to the sun and atmosphere. The tray consists of sides and ends, the ends having less depth than the sides and bottom slats nailed longitudinally to the end pieces having open spaces between the slats, and a thickness equal to the difference in depth between the side and end pieces of the tray so that the bottom of the slats are flush with the lower edges of the side strips. Transverse bars are nailed across the bottom and sides at intervals, and strips of less thickness beneath the end of the trays. Side strips are nailed to the bottom of the cross bars in line beneath the side rails of the tray, and these strips curve upwardly at each end where they are nailed. Blocks are nailed upon the sides of the tray having the upper and lower ends beveled in such a way that when one tray is piled upon another these beveled ends prevent the trays sliding out of place. By the curvature of the supports for the trays the trays themselves are raised from the ground so that there is a free circulation beneath them, and when the trays are piled or nested together they are in the same manner separated to allow the air to circulate.

Discharge Gates for Tanks.—C. W. Merrill, Alameda, Cal. No. 635,442. Dated Oct. 24, 1899. This invention is designed to provide a discharge gate for that class of vats or tanks of large diameter which are used in the treatment of valuable precious metals by what is known as the cyanide process or similar processes in which the pulverized ores are subjected to solutions for the purpose of removing the precious metal. The tanks have one or more openings in the bottom, and in my invention I employ vertically movable hollow conical gates having packing rings fitted in the bottom, and these are closable upon annular seats around the periphery of the opening. The interior of the gates have convergent guides which, first entering the openings, serve to guide and center the gates so that they will close accurately upon their seats. The gates are movable by means of screw shanks extending upwardly and turnable in suitable nuts above. The screw shank is fixed in the gate stem by keys which project and are slidable in vertically slotted exterior tubes so as to form gates to prevent the parts from being turned around when moved up or down the screw.

Letter Opener.—H. Markham, San Rafael, Cal., assignor of one-half to W. I. Thayer of same place. No. 635,495. Dated Oct. 24, 1899. The object of this invention is to provide a convenient device for rapidly opening letters which is particularly desirable where there is a large mail to be handled. It comprises a fixed base, an inverted blade fixed to the base having a cutting edge presented downwardly and tapered to a rounded point. In conjunction with this is an elastic guide adjacent to the point of the cutter, and a depression beneath the blade through which the part to be cut is moved. The blade is provided with a screw by which it may be adjusted and upon the side of the blade is a spring which presses the fold to be cut against the blade so that the latter passes through the fold and slits it open.

Car Fender.—Wm. Morck, Oakland, Cal. No. 635,445. Dated Oct. 24, 1899. This invention is designed to provide a fender extending from the front of cars and like vehicles, to prevent persons from being injured by passing under the wheels. The guard comprises forwardly projected inelastic curved arms having their rear ends hinged to a permanent part of the car structure. Vertical arms are fixed to the guard and rods slidable through the support to which the guard is hinged above and below the hinge point. Spiral springs surround the rods, the lower one in front of the support and the upper one in rear of it, so that whenever the fender strikes anything the two springs will yield their opposite sides. The fender is normally carried a slight distance above the surface over which it is passing, but will be forced down by a weight falling upon it, the springs yielding for that purpose and returning it to its normal position as soon as the weight is removed.

Water Lifting Apparatus.—P. S. Nowacki, San Francisco, Cal. No. 635,504. Dated Oct. 24, 1899. This invention comprises a device for lifting water in considerable quantities. It comprises oppositely inclined cylinders, the lower ends of which are submerged within the source of supply, and the upper ends inclining towards each other and made to discharge into a receiving tank or chamber. Within these cylinders are right and left hand spirals respectively, and by means of suitable gear mechanism connected with the shafts of said spirals they are rapidly rotated within their cylinders, thus collecting the water at the bottom and forcing it up to the discharge end at the top. Divergent directing flanges at the upper end serve to deliver the water and prevent its being thrown outwardly as it escapes from the upper end of the cylinder. Wedge-shaped plates extend from the shafts outwardly between the spirals, and these serve as a sort of shake to prevent the water flowing backwardly when the speed of the apparatus may be temporarily checked or reduced.

Slidable Swinging Window Sash.—B. Hausmann, San Francisco, Cal. No. 635,437. Dated Oct. 24, 1899. This invention relates to that class of windows in which the sashes are vertically slidable for ordinary use, and they are also so connected that they may be opened about hinges independent of the sliding movement. In this invention there are slides having connected with them the cords of the counterweights, and these slides are guided and movable in suitable grooves between the stops and parting beads of the window. The sashes are hinged to these slides so as to open about them, the hinges being peculiarly constructed so that the pintles are exterior to the stops, and the sashes, when opened about the hinges, are carried outwardly so as to be clear of said stops. An automatically operating hook is connected with the hinge so that when the sash is to be opened this hook engages with a fixed plate or bolder in the pulley stile and thus holds the sash above the window seat while it is being opened about its hinges. This is necessary because, after it has been disengaged from the slide upon the opposite side, the single counterweight would not be sufficient to prevent a heavy window sinking down and resting upon the window seat. When the opposite edge of the sash is disengaged from the slide with which it is normally connected it is also necessary to prevent this slide moving up by reason of the connected counterweight, and the slide having been relieved of the weight of the sash, I have therefore shown a locking key which is designed to fit into suitable engaging holes or devices in the pulley stile, so as to retain the slide in place after the sash has been unlatched therefrom. When it has again been closed and latched this key is removed and the act of closing also disengages the hook by which the opposite side of the sash was held and the sash is then in condition to move vertically in its slide.

FOR SALE.
A ZIMMERMAN (Factory Size) FRUIT EVAPORATOR.
In use one season. For particulars, address A. O. NELSON, Gertrude, Cal.

Industrial Notes.

—Nearly $250,000 has been invested in new pumping plants in the vicinity of Pomona, Cal., this year.

—The annual report of Commissioner Hermann of the General Land Office, shows a total of 929,308,068 acres of unappropriated and reserved public lands in the United States.

—The transcontinental railroads, together with their connecting transpacific steamer connections at San Diego, San Francisco, Portland, Tacoma, Seattle and Vancouver, have just issued a new tariff, advancing freight rates 25%. Cotton alone, which is shipped in large quantities from Texas to Japan, is exempted from this increase. An advance of rates by the way of the Suez canal is given as a reason for the increase by way of the Pacific ports.

—The American consul at Berlin writes that vexatious postal and tariff charges on mail matter between the United States and Germany have been abrogated, and that henceforth it will be possible for shippers in both countries to send, prepaid, postal packages not exceeding five kilograms (ten and one-half pounds) in weight with absolute certainty that they will be delivered without any other charge than import duty, which can be accurately calculated, all German duties being specific.

—The Canal Commission in Nicaragua is straightening the proposed route and otherwise lessening the cost of constructing the waterway. It is estimated that the Commission will decrease by several million dollars the amount mentioned by Admiral Walker in his recent report to Congress. Capt. A. P. Davis of the Commission has charge of the hydrographic division which is to examine the five proposed routes across the Central American isthmus and report the result of their investigations to the Government of the United States. Capt. Davis has under his command a number of engineers who are taking the measurement of streams of water that flow into the lakes along the course of the projected canal. He reports that there is plenty of water for canal purposes in Nicaragua.

—The Philippine Trading Association is trying to do business with the islands. It recently shipped one and one-half barrels flour, in packages, to Manila, to introduce it. These are the charges the Government collected on the flour at Manila:

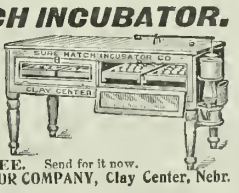
Specific duty, 129 kilos, at $2.10 per 100 kilos	$2 71
Consumer's tax, ½-cent per kilo	65
Ad valorem duty, 8% of $7.25	58
Surtax, 10% of specific duty	27

The total duty collected was $4.21 Mexican, or $2.10 American money. A milling company has received returns on a shipment of 500 barrels of flour made to Manila last June. Freight from Portland to Hong Kong was $5 a ton, gold; from Hong Kong to Manila $3.50 a ton, gold, and lightering charges at Manila $2.50 a ton, gold. Total freight charges were $11 a ton, or $1.10 a barrel. By the time a barrel of flour was landed at Manila it was worth:

Cost price at Portland	$3 00
Freight charges	1 10
Specific duty	1 00
Surtax	10
Consumer's tax	25
Ad valorem duty	24
Lightering at Manila	25
Total	$5 94

Flour at $5 94, gold, or $11.88 Mexican, is an expensive luxury for Filipinos.


DR. LEAVITT'S Double Power DEHORNING CLIPPER.—V-blade.
It Cuts all round horns.
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True to its name. It is made to hatch and does hatch. No excess heating in center of egg chamber. Entirely automatic. Hundreds in use. Common Sense Brooders are perfect. Let us make you prices laid down at your station. Our Catalogue is chock full of practical Poultry information. It is FREE. Send for it now.
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HOLSTEINS—Winners over Jerseys of *every* butter contest at State Fairs for five years. This year every butter prize awarded went to my herd except 2nd prize for 2-yr.-olds. Stock for sale. F. H. Burke, 626 Market St., S. F.

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JERSEYS—The best A.J.C.C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale

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WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it

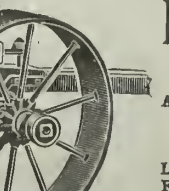
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J. P. ASHLEY, Linden, San Joaquin Co., Cal. Breeds Berkshire, Poland-China and Essex Swine.

Sheep and Goats.

C. P. BAILEY, San Jose, Cal. Angora Goats and Persian Fat-tailed Sheep. Catalogue free.

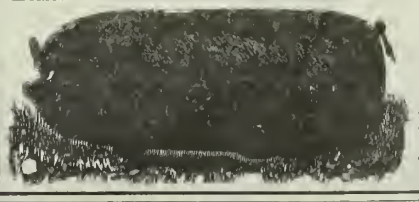
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THE BEST FEED FOR STOCK, CHICKENS AND PIGS.
For sale in lots to suit by
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Must be first class if it is to operate Feed Cutters, Grinding Mills, Wood Saws, or pump water successfully. We manufacture Engines—2, 4 & 6 horse power. Tread Powers for 1, 2 or 3 horses. Sweep or Lever Powers for 1 to 8 horses. Every machine fully warranted to generate *maximum power* at minimum of force exerted. Catalogue showing *Smalley Line complete* mailed free if you name this paper.
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The Standard of America!
Strongest! Takes least power! Carries heaviest tools! Drills much faster! Most convenient to handle! Will last longer and make the owner more money than any other Well Drill on earth.
We also make many other machines for drilling wells of all diameters and depths. Machines for Horse, Steam, and Gasoline Power. Write for full particulars.
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Blood Will Always Tell.
The Lynwood Herd of Swine have again been awarded the majority of premiums at the State Fair, although the competition was the greatest ever known and the exhibit much the largest. When you want *something real choice* that you can depend upon write JAS. R. BOAL, Mgr., P. O. Box 686, Los Angeles, Cal.

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Special Introductory Price.

Will Couple Out to Any Length. Front Axle with Hounds. Any Size Wheels, Any Width. Sizes, Regular 28 and 34-Inch, 4-Inch Tire.
Weight, 600 lbs. Will Carry 4000-lb. Load. Most Profitable Truck Made, both to Dealers and Farmers.
Strongest, Best and Neatest
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All Steel Except Tongue and Coupling Pole.
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W. J. ANDREWS, Room 37, Crocker Bldg., San Francisco, Cal., Gen'l Agt. for Coast States
Manufactured by HAVANA METAL WHEEL CO., Havana, Ill.

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DON'T think if you buy a farm separator you must buy something complicated and hard to manage.

DON'T think that because one kind of farm separator requires an hour to wash it that all do.

DON'T think that constant repair bills are a necessity just because some one with a complicated separator has to pay them.

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Patrons of Husbandry.

Some of the Relations of History and Geography.

Abstract of an address by PROF. C. W. CHILDS before San Jose Grange, which the Grange voted to have published in the PACIFIC RURAL PRESS.

As these talks have many of the characteristics of a "continued story," I will give a brief abstract of the previous talk upon the regions of the Nile and the Euphrates, in order that you may more clearly grasp the principal idea involved in this discourse, which is, that no study of the history of any country can be thorough and satisfactory that is not based upon a knowledge of its geography, or, in other words, its physical features; also that man by his action has altered the physical features of many countries and has thereby greatly changed the ordinary course of events.

The most ancient centers of civilization were in the valleys of the Nile and the Euphrates rivers. These countries lie mainly between the parallels of 25° and 35° N. latitude. The northern half of this region, taken as a whole, is in about the same climatic zone as the southern half of California, and its soil and landscape features are similar to those of our great San Joaquin valley. The Egyptian empire extended from the mouth of the Nile southward about 500 miles, the average width of the river valley being about seven miles. The isolation of this region, surrounded as it was by deserts and the sea, protected it from hostile invasion during the early period of its history, and gave opportunity for the development and growth of a nation. Its equable climate, fertile soil, wide and placid river, clear sky, treeless plains and dry atmosphere helped to shape and mold the character of its civilization. The occupation, religion, literature, education, laws, manners and customs of its people were greatly influenced by these physical features. Some of these physical conditions that contributed so much to the growth and prosperity of the country were instrumental at a later time in causing the downfall of the Egyptian Empire.

No other country in the world depends upon artificial irrigation to such a degree as does the land of Egypt. The Nile has its source in tropical regions. One branch rises in the great lakes of equatorial Africa, and the other in the mountains of Abyssinia. In these tropical regions the rainfall is enormous, and a vast amount of rich vegetable soil is annually carried down the river and spread over the narrow valley of the Nile. Owing to causes not yet understood the annual rainfall is not uniform in the countries about the sources of the Nile. An unusually abundant as well as an unusually scanty flood are alike detrimental to crops. The ancients, therefore, made reservoirs for storing the flood waters, and numerous canals were built for the distribution of water when needed. One of these great reservoirs, called Lake Fayoon, covered an area of 500 square miles. The great famine mentioned in the Bible was caused by scanty floods, and this calamity probably suggested the construction of this mamouth reservoir.

The physical features of the Nile valley have remained practically unchanged for more than 3000 years. Its soil is just as fertile as it was when the Israelites went down into Egypt to buy corn, and the river rises, spreads over the land and recedes just as evenly as it did in those ancient days. Perhaps no other region in the zone of civilization has been so little affected by the agency of man, and the explanation is very simple. The vandal, man, has not destroyed the forests and other vegetation around the sources of this mighty river.

The Euphrates River.—Mesopotamia, or the Euphrates region, was also the seat of great empires. Assyria, Chaldea, Babylonia are familiar historical names. This region is a great plain bounded by mountains on the north and east, by a desert on the west and by the Persian Gulf on the south. It is watered by two rivers, the Euphrates and the Tigris. Both have many features in common. In ancient times the two entered the gulf by different mouths; but the silt carried down for ages has filled the head of the gulf and pushed the land far into the sea, it is believed that in historic times, to the extent of 1000 miles. These rivers now unite far inland and flow through the same channel to the gulf. They are swollen every spring by heavy rains and melting snows in their mountain sources. Unlike the Nile, very little fertilizing matter is brought down into the valley. These rivers have a tendency to overflow their banks in the spring, and the inhabitants built reservoirs and canals to prevent inundation and to store and distribute water during the dry season. These canals and artificial lakes excelled in extent and skillful structure any similar attempts of man to control and utilize the waters of rivers. California has similar problems to solve, and our engineers may profit by a study of the vast engineering feats of ancient workmen.

The physical conditions of this region were similar to those of the Nile and produced similar effects. Mesopotamia, like the Nile country, was isolated by natural barriers which prevented hostile intrusion during the formative period of its civilization. But this remarkable land, possessing in itself such immense sources of agricultural wealth, was illy adapted for defense against a strong foe. However, as long as its civilization was superior to its neighbors, and its people were united, it formed one of the greatest empires in the world.

What Man Has Done.—This region is now a desolate waste, and the causes which have wrought so great a change are worthy of notice, for some of them are active in our own country. The ravages committed by man have subverted the relations and destroyed the balance which Nature has established between her organized and her inorganic creations. The forests and other vegetation were destroyed in the mountains and the great reservoirs of moisture dried up. The humid hills became ridges of dry rocks as the rains washed away the soil and filled and choked the beds of rivers. The numerous canals and reservoirs were filled with the debris brought down by the rivers which are now subject to extraordinary floods at certain seasons, and a deep bed of gravel and sand soon covered the rich valley land. The lakes have become swamps and marshes and fill the air with miasmatic gases, and the great rivers flow in uncertain channels through a desert and a deserted land.

The Mediterranean Region.—I have given you a brief outline of some of the reciprocal influences of man and nature in two particular regions. I shall not, for want of time, take a particular country for a lesson to-day, but in a general way seek to emphasize some of the main causes and effects previously referred to. The Mediterranean, or middle sea, as its name indicates, occupied a central position in the known world 2000 years ago. It is still historically a central sea. It washed the shores of the most beautiful and productive lands on earth. This sea and the great desert in northern Africa, through their combined influences, have given to this region a wonderfully mild and salubrious climate. The parallel of latitude which passes through the Santa Clara valley crosses the central part of this region; but Greece, which is in the center of this Mediterranean country, is nearly opposite San Jose in longitude. This country, the center of philosophy, art and literature for a short period in ancient history, affords one of the best illustrations of the effects of environment upon historical development. The psychological effects of the sky, atmosphere and varied scenery are noted in the mental characteristics of its ancient people. The geniality of the climate tends to moderation in eating and to the use of light clothing; as a result man was not compelled to undergo grinding toil to procure the means of material living, and so was left with time to investigate, study and think. The country is a complex peninsula, crossed and recrossed by mountain ranges. Its shores are pierced by bays and gulfs so that at no point in the interior is the inhabitant far from seashore. It is said to be very difficult for one who has not visited Greece to realize the diminutive scope of its geography. In these physical facts scholars have found causes of the most prominent features of the Greek mind and life: the wonderful mental gifts of the people; their seafaring, trading and colonizing habits: their free, adventurous spirit: their political institutions, and the whole form and spirit of their public life. In her early history Greece contained about as many independent States as she had definite units of territory, plain or valley: a state of things that resulted in a free and vigorous political life, marked by intense patriotism and local spirit, but tended to division and strife and to the lack of general, national ideas—to what we call State's rights, and so to eventual weakness and political destruction.

(*To be Continued.*)

Temescal Grange.

TO THE EDITOR:—Temescal Grange tendered a very enjoyable informal reception last Saturday evening to Mr. Chas. W. Emery, the newly elected Overseer of the California State Grange.

Mr. Chas. Fowler gave a very interesting talk on his recent trip to Alaska, which was followed by readings and recitations, after which the members and their friends partook of a dainty collation. A.

San Jose Grange.

At the last meeting of this Grange three applications for membership were received. Saturday, Nov. 11, was set for initiations. In the near future a harvest feast will celebrate the year of prosperity which the farmers of the valley have enjoyed, and a revival of the work of the Grange.

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THE VETERINARIAN.

Treatment of a Swelling.

TO THE EDITOR:—I have a valuable heifer that had a lump come near point of shoulder. The lump is hard but somewhat movable, about the size of a man's head. Been there four months. No veterinary here. Can you advise me what to do? I have lanced it twice, but no matter came. M.

Dos Palos, Merced county.

Insert a sharp-pointed knife through the center of the enlargement. If no fluid escapes, you have a tumor which can easily be dissected out. Dissect it out boldly. If you cut any arteries, no matter how large, they can be readily stopped after the tumor is removed by immersing new, clean sponges in hot carbolic water; squeeze them out and insert into the cavity and sew the wound together tightly. To find out whether it is an abscess or not, be sure and insert the knife very deep. If it is an abscess, make a good, free opening and thoroughly cleanse by injecting carbolic or phenyle water and leave a good, free opening for drainage.

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Dr. Creely sends us the prospectus of the San Francisco veterinary college, recently opened, and of which he is president. It contains a full description of faculty, course of study, facilities for instruction, etc.

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The catalogue of the Loomis "Clipper" Well Drilling Machines, made by Loomis & Nyman, Tiffin, Ohio, will interest every one who has occasion to drill for water, oil, gas or coal, or those who may contemplate entering the business of dri ling. The "Clipper" drills have done good work in all kinds of soil and under all conditions, and their claims to superiority are backed up by the testimony of successful users of these machines. The makers claim that the "Clipper" is strongest, requires least power, carries the heaviest tools, drills faster, lasts longer and earns more money than any other. Loomis & Nyman make many kinds of drilling machines for use with horse, steam or gasoline power. They will send their catalogue anywhere on request. *

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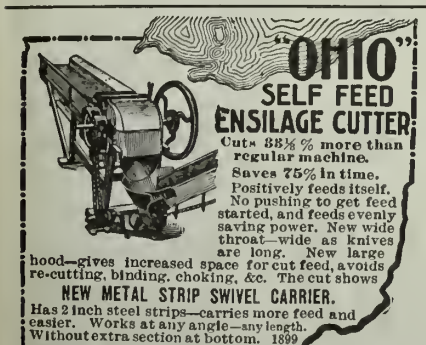
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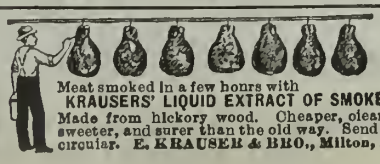
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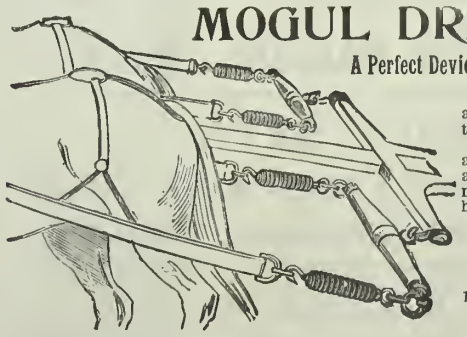
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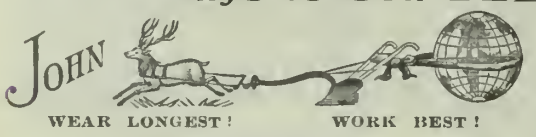
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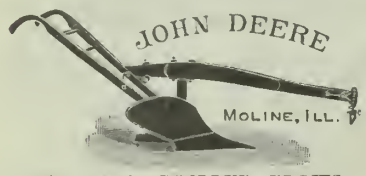
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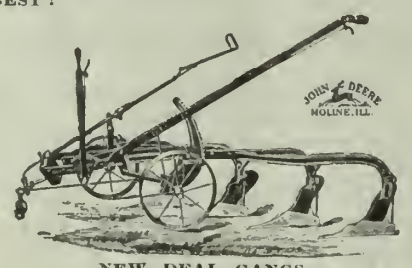
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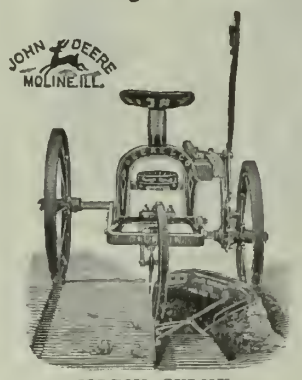
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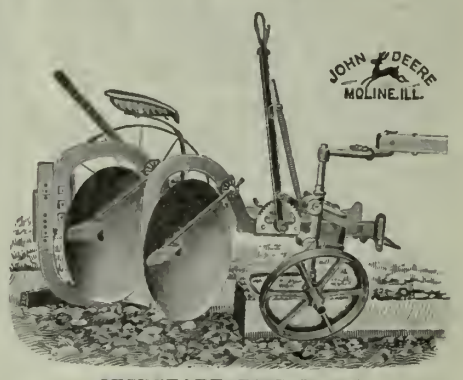
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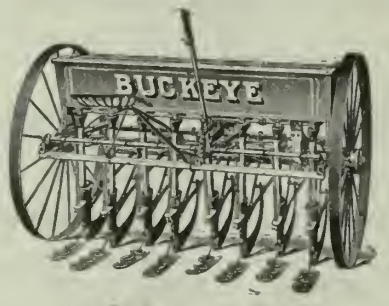
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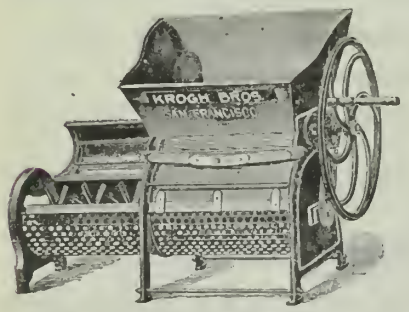
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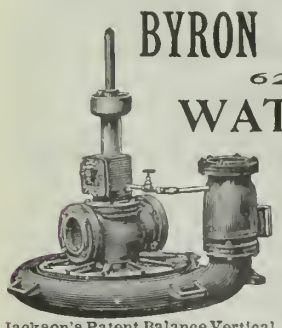
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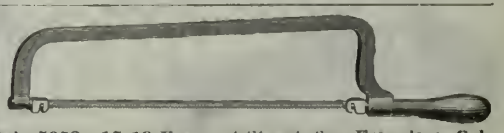
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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 21. SAN FRANCISCO, SATURDAY, NOVEMBER 18, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

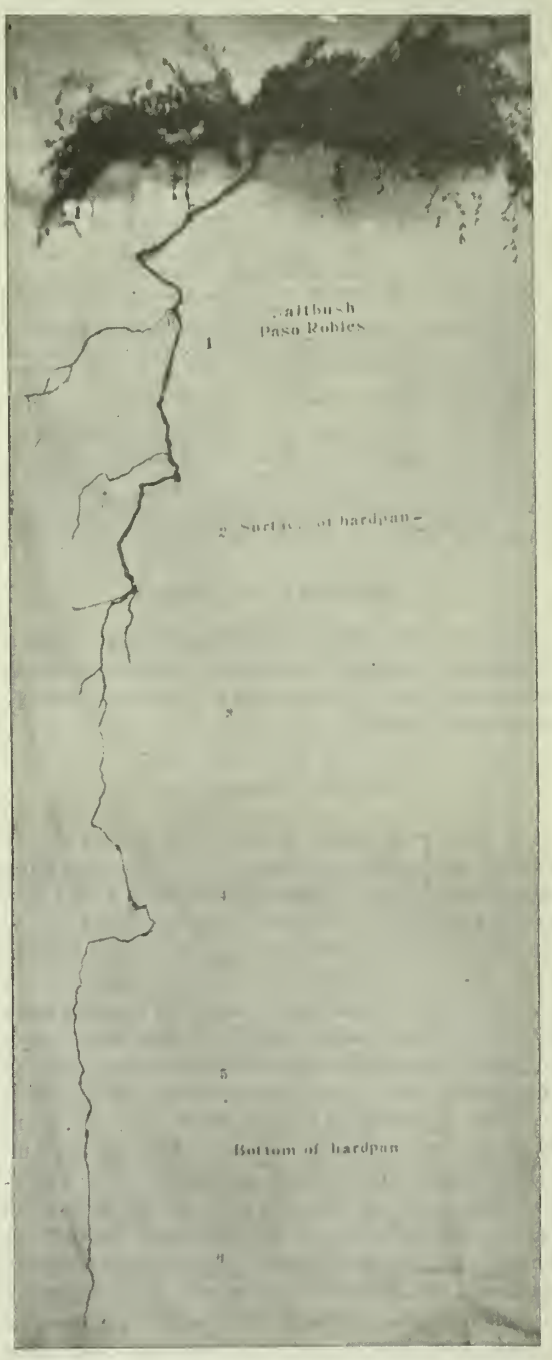
Root Growth of the Australian Salt Bush.

One of the most striking successes attained by the University of California in its introduction and acclimation of economic plants is found in the wide demonstration of value in the Australian salt bushes for alkali lands and for arid lands as well. The introduction was chiefly with a view of securing something better than the indigenous salt grass and weeds which grow on land too alkaline to produce ordinary forage and field crops, and this end was satisfactorily reached, as shown by the experience of hundreds who received seed from the University. Not only did they largely increase their sowing, but the fame of the plant spread so widely that a considerable commercial demand arose for the seed and it has for the last three or four years been handled in considerable quantities by the California seedsmen and is now being offered by Eastern seed houses. Recently, too, the results reported by our State University have attracted wide attention in foreign countries and their experiment stations have verified California conclusions, and the salt bushes bid fair to be an important factor in the reclamation or at least the profitable utilization of lands which have long been waste even in the oldest inhabited countries in the world. We consider this a striking exemplification of the value of modern experiment station work.

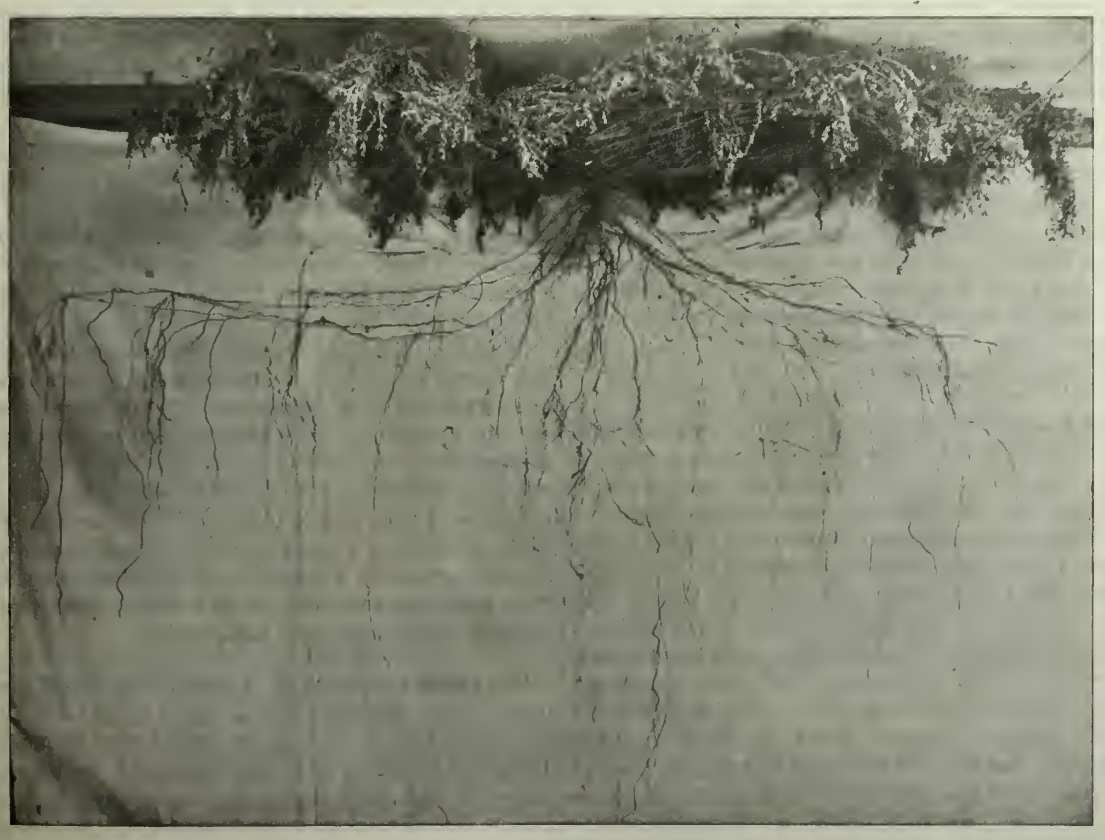
But another feature of the matter, hardly less interesting, and perhaps of equal economic importance, is the demonstration of drouth endurance in at least one species of salt bush, the *Atriplex semibaccata*, which is the one most widely tried and distributed. The alkaline lands upon which this plant was first tried are chiefly low and retentive of moisture. It was, then, something of a surprise to receive from experimenters to whom seed was sent from the University, reports of the satisfactory growth of the plant on arid, non-alkaline land. The conclusion seemed irresistible that the plant would demonstrate value for drouth resistance and the explanation of this fact was secured at the University substation at Paso Robles, as shown by one of the engravings on this page.

A full review of the University work with salt bushes is given in a bulletin recently issued, in which the history and the local field work with the plants are outlined by Charles H. Shinn, inspector of the University Experiment Stations, and the composition and food value of the plants are given by Prof. M. E. Jaffa, as shown by analyses and comments upon them. From this source we take the brief outline of the facts relating especially to the drouth resistance and the character of the root growth.

The engravings on this page show that the plant develops a very different root system in different situations. In moist alkaline soil it makes many fibrous roots, extending in all directions through the moist soil and freely taking the available moisture. Under such conditions we would naturally expect the immense growth of top which is secured. Single plants in such places have made a diameter of 16 feet of prostrate verdure. In arid soil it makes a straight shoot for subterranean moisture and reaches it in spite of obstacles, but naturally cannot make such a top growth while it has so much underground boring to do to maintain life. The second picture shows this behavior very clearly. This Paso Robles salt bush plant, two years old, was taken up in the fall of 1898, when green and growing, and the position of its roots studied and mapped. The main root bored its way downward until the streak of moister soil just below the hardpan was reached, when the plant, which had remained green all the time, gained new energy. The main root was nearly an inch in diameter at the surface of the ground; at the point where it finally broke off and could be traced no farther downward it was the merest thread. In this case, then, the salt bush grew well on a soil that was not only dry and uncultivated, but was also underlaid by hardpan. Many borings over the tract have determined the depth of surface soil, and in many places also the thickness of the underlying hardpan. Plants have only from 1 to 2 feet of open soil in which to grow before they find a hardpan of from 20 inches to 6 feet in thickness, through which the roots of but few species of plants can penetrate. The native oaks, the English oak, mulberries and locusts do indeed slowly extend through it, but apricots, peaches, cherries and most orchard trees merely spread out their roots on its surface for some years, then cease to grow, and finally die. When wet by rains this hardpan becomes easy of penetration, a fact of which the salt bush takes advantage, starting growth, as it does, with the first autumn showers.



ROOT SYSTEM OF SALT BUSH IN UPLAND SOIL.



ROOT SYSTEM OF SALT BUSH IN ALKALI SOIL AT THE UNIVERSITY STATION AT TULARE.

The total rainfall at the Paso Robles station for the season of 1897–98 was but 3 24 inches to March; April and May showers brought this to 4.75. The season was marked by very strong "northers." None of the native spring bulbs, such as calochorti, brodiæas, etc., bloomed, and few even made leaves. By the first of April the roadsides were brown and barren. On unirrigated land there was no green fodder plant excepting salt bush in the entire region. The growth of *A. semibaccata* on this poor and arid soil was a revelation to every farmer. Seed sown in December, 1897, made a foot of growth by April 12th, branching and covering the ground.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, November 18, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

It is the regular thing in California for the clouds to resent any reflection upon their efficiency in the shape of a popular irrigation movement. Years ago, when it was usual to resolve in the fall that a "general irrigation law" was the greatest need of California, the Legislature in the following winter which undertook such an enactment had to fly from the capital to avoid flood dangers owing to the heavy rainfall. More irrigation laws have been stormed to death in California than have been enacted, and it would have been a good thing for the State if all of them had met the same fate. This week the clouds lived up to their record, and throngs of conventional irrigators chasing about in the rain seems to be the Weather Bureau's idea of the fitness of things. It seems to be undecided whether the shower of water outside was so profuse as the shower of words inside the hall, but both seem to serve a good purpose, so we must rate them equal, and hope we shall have plenty more of both.

The rains have reached southern California and in some parts have amounted to a good wetting. The State as a whole has enough for some time, and probably the present storm will fix up the south before it gets through.

Wheat is still drooping, in keeping with the falling weather and partly, no doubt, caused by it, for sloppy weather always takes the vim out of buyers of all things but umbrellas. The foreign markets, however, have something to do with the case, for they are reported quite soft. Barley is rather weak, but not lower as yet; shipping continues, reaching higher amounts than two years ago. Oats are quiet and easy. Buckwheat is lower, as supplies have come in from somewhere to fill the lack. Hay has rather a firmer tendency for choice, as receipts are reduced. Bran and other feedstuffs are lower. Beef from Nevada has arrived more freely. Hogs are firm, but no higher. Receipts of Eastern chickens are lighter. Fancy eggs are scarce and high again, while many storage eggs are out of condition, owing to conditions when stored last summer. Fresh butter is doing a little better and is thought to have touched bottom for the present. Cheese is firm. Dried fruit is steady. Prunes are moving better at the recent reduction. Oranges are improving in quality and sell freely at somewhat lower rates. Fancy apples are selling well. Wool is in active demand, and it looks as though the spring clip would have a cleared deck. Hops are moving a little, but prices are low.

The Water Storage Convention.

Delegates from all parts of the State assembled in this city on Tuesday morning to attend the convention summoned in the interest of water conservation. As we stated recently, abundant time had been given for the arousing of wide interest, and the throng at the convention was proof that it had been duly aroused. The official roll of the convention included 481 names, and those officially delegated, as is usual with such bodies, only a portion of the regular attendance. Not counting idlers, there were several hundred deeply interested people in addition to the chosen representatives of various industrial organizations from all parts of the State. The conclusion was irresistible, on sight of the body and its earnest demeanor, that the California people are awake upon the profoundly important subjects which actuated the assembling of such a multitude. We were not disappointed to find also that the body was one of broad views and eager to learn the truth and eager to take measures to enforce it. We anticipated this and expressed two weeks ago the conviction that the occasion was not planned for the enforcement of narrow plans or for selfish policies. The result seems fully to justify our confidence.

The convention was well started on its work by the welcoming address of Mayor Phelan, in which, among other things, he said:

I am informed that already there are two parties—one contending that it is the duty of the State to provide for the storage of the flood waters, and the other that it is the duty of the Federal Government. Now there can be no doubt whatever in the mind of any one that if the Federal Government would undertake this work it would relieve California of a great outlay; but, on the other hand, so desirable is the storage of flood waters that if there is any possibility of losing this opportunity we should not wait upon the Federal Government. So important, in my judgment, is the storage of the storm waters of California that we must make any sacrifice of our personal views to bring about harmony of action.

The sentiments of Mr. Phelan were warmly applauded, and the selection of Mr. F. W. Dohrmann for temporary chairman, as proposed by the Los Angeles delegation, was assurance that the meeting was at least to be begun without a contest. The assembly was quickly assured that no mistake had been made, for Mr. Dohrmann rivaled the Mayor in his declaration for harmony and resolute union for desirable effort. He said: "I hope and expect that a free, fair and full discussion will be had upon all subjects which are incidental to the issue before us; and, so far as it is within the power of the chairman and while I occupy this position, it is my intention to give you fair play, full scope and every encouragement, that this convention may accomplish what is within its power if it lays the foundations deep enough and broad enough to make our State the most prosperous and best of all the States of the Union." All were well assured that the chair had been given to a man of fairness and sincerity and that, so far as he could govern it, the body would be fair to all who were fair themselves in their manners and motives.

The hall secured for the preliminary organization was far too small for the convention, and while a committee on permanent organization and order of business was at work the meeting reassembled in the Metropolitan Temple, where it had good space and air. The temporary organization of Chairman Dohrmann and Secretary Maddux of Visalia was made permanent and an outfit of vice-presidents and assistant secretaries provided; also a committee of twenty-one on resolutions—the latter being another indication that breadth of view was desired and all shades of opinion would be fairly treated. When this was all done the bung was knocked out of the talk barrel and during the long afternoon there was an absolutely free platform. There was little to entertain the seeker for sensations. During three hours of constant talking there was not an issue joined, though of course there was some variance of views of means and methods. Every speaker was encouraged to say more and the business-like character of the addresses may be inferred when it is stated that there was not a call to order—not a transgression of the fifteen-minute rule which the convention adopted. The assembly listened most patiently to details—in fact, seemed to encourage them. It was free with its applause and evidently was best pleased from first to last with declarations of the immense importance of the subjects, the essential need of employment of all available means toward desirable ends, the encouraging sentiment that the upbuilding and development which the State may expect from forest conservation, water storage, the recognition of just claims for water actually used and the equitable distribution of all added waters to actual users—all these points received warm welcome whoever presented them. As a fact the afternoon seemed a little oppressive in its atmosphere of warmth and harmony. A session of the Universal Peace Congress could not be more blissfully harmonious.

The propositions brought before the convention during this cosy afternoon included the following:

The formation of a permanent organization of wide membership and including all local societies, the objects of which should be the promotion of the purposes outlined by the convention, including leasing of grazing lands for irrigation revenue; co-operation with the general government in all lines of irrigation work; the inception of State work under a State engineer, etc.

A declaration of belief in large storage reservoirs and encouragement to any and all efforts to secure them.

Establishment of a State Board of Engineering to collect all kinds of physical and legal data and act in a judicial and constructive capacity in securing irrigation works.

Approving every effort, either by State or national aid, to deal effectively with flood waters.

Favoring legislation for the creation of an irrigation tribunal to adjust all water right controversies and compel, within two years, the recording of all claims upon all streams, with a statute of limitations declaring all claims void which are not definitely described and recorded within the time stated.

The approval of the aims and purposes of the National Irrigation Congress, including national construction of storage reservoirs, leasing of public grazing lands, making actual use a condition of water ownership, indissolubly binding land and water to each other, etc.

The continuation of combined State and national work for the improvement of the Sacramento and San Joaquin rivers.

All these propositions were formally presented to the convention during the placid afternoon we have mentioned. A glance at them will show why the meeting was quiet. As Mayor Phelan premised, everyone was in favor of Government work, and the allusions to Uncle Sam even by those who trusted rather to State initiative were respectful in the extreme. The sentiment of the assembly, as signified by the applause, was clearly along national lines, and the proposition of bonding and taxation to promote reservoir building was hardly heard of. Those who have faith in such a measure as most expeditious and practicable were content to hold their views in abeyance. For this reason no issue was joined during the first day of the convention, and approval of the plans of the National Irrigation Congress grew more and more emphatic.

We are obliged to send this issue to press while the convention is still in progress and to defer until next week the final conclusions of the convention. These will embrace more than the propositions cited above, for others were being continually referred to a large committee on resolutions. It seems fair to conclude at this moment that the convention will place California quite closely in line with the national movement which is now commanding such wide attention and which, it is claimed, has already secured much support in Congress.

Governor Richards of Wyoming has issued a request to the Governors of the arid States and Territories to hold a meeting at Salt Lake, December 14th, to formulate plans of legislation to be submitted to Congress looking to leasing grazing lands in the West to stockmen and ranchers, the rentals to be devoted to building irrigation works for the reclamation of lands susceptible of cultivation.

QUERIES AND REPLIES.

Resistant Roots for Grape Vines.

To the Editor:—I am taking out about five acres of vines, intending to immediately replace them with resistant cuttings. One who professed to know told me yesterday that vines on resistant roots were very shy bearers; that three tons to the acre is all that could ever be expected from them. Please inform me in regard to this matter.

2. Are there any vineyards on resistant roots in the State that are now six years old or over? If so, where?

3. If I should put in rooted resistant cuttings as soon as the ground is ready, would it be right to graft them in the spring?

4. Will the planting of the resistant cuttings bring phylloxera into the vineyard? There is none in it now.

I am pulling these vines out, not because they are diseased, but because they are such shy bearers that they have not paid for the labor expended upon them any year during the past four years.—Rancher, Los Gatos.

The resistant root will not make the vine a light bearer unless it is lacking in vigor as a root. Some resistant roots are lacking in vigor and care must be taken to secure one which is a strong grower in the soil which you have to deal with.

There are resistant vineyards over six years old in Napa and Sonoma counties. In his excellent review of grape growing in California, which was published in the Pacific Rural Press of May 27, June 3 and June 10 of the present year, Prof. Husmann said: "The growers are satisfied now that many of the best varieties when grafted on resistant roots in their proper localities will produce better crops than they ever did on their own roots." We believe that this is the experience of all who have the right root for their soils.

You can graft on rooted resistants before planting and plant the grafted vine if you wish, or you can graft next spring on fall-planted vines if you wish. The former is a great deal easier.

The planting of rooted resistant vines is certainly likely to introduce the insect. If you have a free region you ought not to introduce a rooted vine of any kind, but only thoroughly disinfected cuttings.

If your vines are such light bearers and you know the same varieties are good bearers in other places, the probability is that the trouble is in the place and not in the vines. If this is the case, it is a question whether even resistant roots would pay. You only have one chance of it and that is that by getting a very hardy resistant root you might get vigor enough to push the grafted vines. This is a question which should be carefully looked into before making further investment in grape vines. Possibly your vines need water more than they need resistant roots.

Woolly Aphis.—Pruners Wanted.

To the Editor:—I have on my place in the Lake county mountains quite an old orchard of about 300 trees and a young one of 200. The apple trees have been troubled with woolly aphis this summer. I intended using tobacco dust about the trees, as advised by Prof. Wickson in his new edition of "California Fruits" and by the Pacific Rural Press, but was unable to get it until after the rains. Can I put it in the ground now?

The limbs of the trees have it also. Shall I use the kerosene emulsion now or wait till leaves drop?

I also wish to use the winter wash of lime, salt and sulphur. Can I use it after the kerosene emulsion or had I better use it first?

Would it be possible through the Rural Press to get an experienced pruner: one who understands his business? We get men, but they simply know nothing and ruin the trees. Why do not men who are orchardists and who understand the work advertise in the Pacific Rural Press.—Subscriber, Lake county.

You can uncover the root crown and put in the tobacco dust at any time during the rainy season when the ground is in fit condition to dig. It is best to do it early so the tobacco will have a chance to leach out well and the juice to distribute itself with plenty of rain water.

The aphis on the limbs need not be treated with kerosene emulsion until the pests begin to appear next spring. The winter wash of lime, salt and sulphur will clean away any vestige which is present in the winter pest as well as the kerosene emulsion could do it.

The Pacific Rural Press should be the accepted medium for filling wants in all agricultural lines. There are too many poor pruners because there are too many people who do not think enough but merely work by tradition. One other reason why there are so many poor pruners is because there are so many employers who do not know when the work is properly done and are therefore the victims of ignorant wood-choppers. There is generally no surplus of good pruners. As we get older in the fruit business there will be more talent of the better sort available.

Sowing Tares With the Wheat.

To the Editor:—I am desirous of experimenting with the enclosed list of plants, but fear introducing a pest into my neighborhood. Please tell me if I shall endanger my neighborhood by sowing and cultivatin any of these plants: Giant Beggar Weed, Dwarf Essex Rape, Giant Spurry, Sand Vetch (hairy vetch), Crimson Clover, Sacaline, Teosinte. With others at Fresno I planted what was called Arabian Millet or Johnson Grass, and do not want to again take any such chance.—B. Marks, Dos Palos.

"Giant Beggar Weed" seeds very freely and has a bad reputation for spreading in the cotton States, but it spreads from seed and consequently does not deserve to rate with Johnson Grass. Our observation is, however, that Beggar Weed does not care for dry soil. "Giant Spurry" is another weed recently boomed in humid climates for forage purposes. In California it is a thin, stemmy weed on dry soil and of little use. Sacaline is a very strong-growing, deep-rooting and root-spreading plant. It is handsome and may be of some use on waste land. From most California points it has been reported adversely except as for its tropical aspect in a well-watered flower garden. Land which will grow lt well will grow alfalfa, which is a much better crop. Rape is a member of the mustard family and about as troublesome as mustard. The hairy vetch is a most excellent drouth-resisting legume—the best we know of—and it deserves wider trial. Crimson Clover will make a fine spring growth on moist land. It has no use for either drouth or frost. Teosinte is like unto it. It requires moisture and heat about as does Indian corn, which is its cousin. The last three plants are perfectly safe so far as spreading is concerned.

Arizona Everbearing Strawberry.

To the Editor:—Will any readers of the Rural Press through your columns inform a subscriber where one could get the Evergreen Arizona strawberry roots for planting.—Subscriber, Yuba City.

We presume the inquiry is for the Arizona Everbearing which is popular in southern California because of its good-bearing character and exceptional hardiness during summer drouth. It is abundant at the south and can be had from dealers. No doubt Richman & Mills of Fullerton, Orange county, can supply any quantity that may be desired.

Long Pruning of Thompson Seedless.

To the Editor:—About how many fruit buds are generally left on the long canes of Thompson's Seedless—say on the high-stake system, and on the trellis? I read with pleasure the article on Thompson's Seedless you had in the Rural Nov. 4.—I. A. Stewart Macaskill, Santa Cruz.

We are not aware that any count of buds is usually made. It usually goes by feet—say 4 to 6 feet or even more in the case of a trellis.

The Fruit Growers' Convention.

To the Editor:—The twenty-fourth State Convention of Fruit Growers of California will convene at San Jose, under the auspices of the State Board of Horticulture, on Tuesday, December 12, 1899, and continue in session four days.

A cordial invitation is extended to all fruit growers, shippers, packers, nurserymen and others interested in horticulture and kindred pursuits to be present and take part in the proceedings of the convention, and it is hoped that every branch of the industry will be represented.

There are many problems that confront orchardists that can only be solved by the combined wisdom and energy of the great body of fruit growers working in harmony.

Essays will be read during the sessions that are deemed of the utmost importance to the fruit interest in general, and all interested should take an active part in this matter and attend the convention. Ample time and opportunity will be afforded visitors to visit orchards, packing houses, fruit exchanges, etc., and a trip will be made to Stanford University to enable visiting horticulturists to listen to lectures by eminent professors.

The committee in charge of the celebration of the fiftieth anniversay of the establishment of the State government of California, extends an invitation to all attending to assist in the Golden Jubilee, which takes place soon after the adjournment of the convention.

The Southern Pacific Compacy will issue excursion tickets to all persons going to the convention and returning at reduced rates, from all points on their lines to San Jose, *provided* a receipt for the ticket purchased be taken at starting point. This will be countersigned by the secretary and will entitle the holder to a return ticket at one-third the regular rate.

The greatest care will be given by the Chamber of Commerce of San Jose, the Farmers' Club, the Grange and the citizens to make the visit of all in attendance of the most pleasing character.

Ellwood Cooper, President.
B. M. Lelong, Secretary.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Nov. 13, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has been slightly above the normal throughout the State, and at Eureka averaged 10° above. Rain has fallen in all sections except southern California. In portions of the Sacramento valley and the coast section the continuous rains have retarded farm work, the soil being too moist for plowing and seeding, while in the San Joaquin valley the soil is in the best possible condition and work is progressing rapidly. There will be a large acreage of grain in all sections. Early sown grain is coming up and looks well. Green feed is more abundant than for many years at this time. Oranges are coloring slowly in southern California. In the Sacramento valley orange picking and shipping were retarded by the rain. In the citrus fruit district of the San Joaquin valley conditions were favorable and orange shipments were heavy. Lemon trees in the south are heavily laden with blossoms and fruit, but the season will open later than usual. Late grapes are being cured by the driers owing to unfavorable weather, and in some localities are going to the wineries.

Sacramento Valley.

Almost continuous rains have delayed orange picking. Shipments to market will commence as soon as the ground is in condition for pickers. Olives are being gathered and picking and pressing are in progress. The last car of grapes was shipped from Vacaville on the 7th. Very little farm work is possible owing to continued rain, and some farmers fear the work of plowing and seeding will be seriously retarded. Grain is growing very rapidly and green feed is better than it has been for many years at this time.

Coast and Bay Sections.

Late grapes in some sections have been ruined by rain. Shipments of green and dried fruits continue. Trees are already showing beneficial effects of the heavy rains and orchardists are delighted. The soil is in excellent condition in most sections and plowing and seeding are in progress. There will be a large acreage of grain and hay. Pasturage is better than for several seasons. Rain has retarded the hauling of sugar beets and pleasant weather would be beneficial.

San Joaquin Valley.

The weather during the week has been unfavorable for fruit drying and the second crop of raisins is being cured by the driers. In the citrus fruit section conditions have been favorable for orange picking and shipments have been quite heavy. Some of the late grapes are being sent to wineries. Olives are being gathered. The crop is light. Early sown grain is coming up and looks well. In some sections the soil is too wet for plowing and seeding, while in others, where the precipitation has been lighter, the soil is in the best possible condition and farm work is progressing rapidly. It is probable the acreage of grain will exceed that of last season. Pasturage is plentiful in all sections.

Southern California.

Oranges are coloring slowly. The yield will be about average, though some localities report a probable increase. Lemon trees are loaded with blossoms and fruit, but the season will open late. Grape fruit will be of fine quality and the yield large. Warm, cloudy weather has prevailed during the week, with occasional fogs, but no rain, except at San Diego. Plowing and seeding continue and present indications are that a large acreage of grain will be planted.

Los Angeles Summary.—Considerable cloudy weather prevailed during the past week, with indications of rain, but none is reported, except light showers at Santa Barbara and in Yucaipe valley. Plowing and seeding continue, but some farmers have stopped work because the soil has become too dry. Early sown grain and new grass need rain to keep them growing, except in the extreme northern section, where the rainfall has been heavier. Crops are about all gathered. Ranchers are prepared for winter work and are anxiously awaiting good, soaking rains. It is, however, too early in the season to feel concerned about the absence of rain, as there is plenty of time for abundant rains to fall. Oranges continue to improve and picking has begun at Riverside. Winter vegetables are of good quality and shipments are heavy. Peas are maturing rapidly. Berry shipments are light.—George E. Franklin.

The following data for the week ending 5 A. M. Wednesday, November 15, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka.....	1.16	8.79	4.03	4.78	48	68
Red Bluff.....	1 56	4.84	0.91	2.73	50	74
Sacramento.....	1.16	5.82	1 00	1.78	50	70
San Francisco.....	1.38	5.44	1.92	2.00	54	64
Fresno.....	.36	2.50	1.15	1.06	50	78
Independence.....	.42	0.79	0.31	1.10	28	68
San Luis Obispo....	.42	4 42	0.59	2.18	50	70
Los Angeles.....	.16	1.73	0.18	1.58	50	78
San Diego.....	.36	0.78	0 07	0.64	52	70
Yuma.....	.50	0.58	0.18	1.04	46	86

FORESTRY.

Forest Ranger System.

In the eleven States and Territories of Arizona, California, Colorado, Idaho, Montana, New Mexico, Oregon, South Dakota, Utah, Washington and Wyoming there are thirty-six forest reserves, containing an aggregate area of about 46,000,000 acres. These reserves are divided into nine districts, each having a general officer, known as a forest superintendent, in charge. Each district is divided into supervisors' districts, the number depending on the number of reserves, total area and difficulties of supervision, as affected by topography and liability to fires and depredations of all kinds. For each of these supervisors' districts there is appointed an officer called a forest supervisor, who has direct charge of the reserve or a portion of a reserve forming his district. There are thirty-nine such supervisors' districts. Each reserve is divided into patrol districts, the size of each patrol depending upon topography and the liability to fires and depredations, and a forest ranger, whose headquarters shall be at some central point in his subdivision, is appointed for each such district. There are 350 patrol districts, or rangers' subdivisions, in the thirty-six reserves. Two hundred and fifty rangers for immediate duty were authorized May 2, 1899, to serve until October 15, 1899. One hundred additional rangers were authorized to enter upon duty July 25, to serve until October 15, 1899. The rangers report to the supervisors and are under their immediate supervision. The supervisors report to the superintendents and the superintendents report to the Commissioner of the General Land Office at Washington.

The forest superintendents are directly responsible to the Commission of the General Land Office for the proper administration of the reserves. They receive from the commissioner all orders and instructions, and are required to see that they are carried out. The forest supervisor is responsible for the work pertaining to his district, and for the proper discharge of duty by the rangers, and reports to the superintendent. The respective duties of these officials are described in detail in the following :

The forest superintendents are required to post themselves thoroughly as to all the rules and regulations governing the reserve, as laid down in a general circular of instructions issued June 30, 1897, and reissued with amendments August 5, 1898, and to see that these regulations are enforced, to observe the results of their operation and to report thereon. They are to obtain information against persons violating the provisions of the forest fire law, and report it to the proper United States Attorney, and to render all necessary assistance in their prosecution. They are to give special attention to the instructions regarding forest fires and to co-operate with the supervisors in all large and important fires which are liable to get beyond the control of the supervisors and rangers, and, when necessary, to employ additional help to extinguish the fires.

They are required to study the effect of sheep grazing upon the reserves; to examine as to the question of the free use of timber and stone as provided by the regulations; timber trespasses; lands in the reserves more valuable for mineral than for timber; areas in the reserves more valuable for agricultural than for forest uses. They also have charge of the appraisement of timber to be sold, and many other similar duties. They promulgate all orders from the commissioner, and examine and pass upon all reports made to him by the supervisors and rangers.

The supervisor must have his headquarters in or near the reserve of which he is in charge. He must familiarize himself with all the conditions existing in his district, especially in regard to forest fires. He must see that notices of the forest fire Act of February 24, 1897, which are printed on cloth, are posed in conspicuous places in the reserve; that all campers, hunters and others found in the reserve are duly warned as to their camp fires and their attention called to the Fire Act. They have immediate supervision of the rangers and are required to be in and through the reserve to see that the time of the rangers is fully occupied in patrolling their districts, clearing up old trails, cutting new trails and performing their duties generally. They make weekly reports of daily service rendered and monthly reports on the general conditions existing on the reserve. They also make detailed reports to the superintendent on forest fires, showing :

First Class—The number of camp or small fires found left burning, which were afterward extinguished by the forest officers or rangers.

Second Class—The number of fires (not included in the first class) which had gained considerable headway before being located and extinguished; total area in acres burned over; number of volunteers, if any, who aided; number of extra men hired, if any, to aid; total amount paid for the extra help; amount of other extra expense incurred (not including amount paid for extra help and for tools).

Third Class—Number of large and important fires requiring extraordinary effort, time and expense to extinguish (not included in the first or second class) which were extinguished; total area in acres burned over; number of volunteers, if any, who aided; number of extra men hired to aid; total amount paid for the extra help; total amount of other extra expense (not including amount paid for extra help and for tools).

All Classes—Total amount expended during the month for tools, the dates of fires, the names and addresses of the parties responsible for their starting, the origin, the damage done, the probable market value of the timber burned and the effect upon the forest cover and water supply.

The rangers are required to be constantly on guard, to patrol their districts, to extinguish camp and other fires, to report to the supervisor all fires as indicated above, and to carry out their instructions as prescribed by a general circular dated May 12, 1899. They make monthly reports of daily service rendered, which reports are examined by the supervisors and superintendents and are then forwarded by the superintendents to the United States General Land Office.

A ranger must provide himself with horse and equipment, while the Government furnishes him with the various implements necessary to open trails in the dense forest, to construct fire barriers and to extinguish and surround fires. Each ranger is provided with a nickel badge, which is worn as an evidence of his official authority.

Arizona and New Mexico.—The superintendent of the six reserves in Arizona and New Mexico is W. H. Buntain of Santa Fe, N. M. These reserves have an aggregate area of 7,234,080 acres, consisting of, in Arizona, Grand Canyon, 1,851,520 acres; San Francisco mountains, 975,360 acres; Black Mesa, 1,658,880 acres, and Prescott, 10,240 acres; in New Mexico, Pecos river, 411,040 acres; Gila river, 2,327,040 acres.

Twenty-eight rangers were assigned to this district in May for immediate duty, and on July 15 nine additional for the Arizona reserves and five additional for the New Mexico reserves, making the total force of rangers for the superintendent's district forty-two.

The twenty-eight first assigned were distributed as follows: Grand Canyon reserve five, Prescott reserve none (the supervisor acting as ranger), San Francisco mountains eight, Pecos river five and Gila river five. The fourteen additional rangers were appointed as rangers-at-large, being assigned from time to time to such reserves as the superintendent sees fit.

Northern California.—The superintendent of the three reserves in northern California is Charles S. Newhall of Fresno, Cal. These reserves contain an aggregate area of 4,923,535 acres, and consist of the Stanislaus forest reserve, 691,200 acres; Sierra forest reserve, 4,096,000 acres, and the Lake Tahoe reserve, 136,335 acres.

There are four supervisors' districts, with W. C. Bartlett, Tallac, Cal., as supervisor of the Lake Tahoe reserve, having also the general supervision of the Stanislaus, of which last-named reserve George Langenberg is the supervisor in immediate charge, reporting to Mr. Bartlett, J. W. Dobson, Raymond, Cal., supervisor of the northern division of the Sierra reserve, and Harrison White, Visalia, Cal., supervisor of the southern division of the Sierra reserve.

Twenty-six rangers were first authorized and eight additional, on duty at large, for assignment to duty on July 15. Of those for immediate duty there were assigned to the Stanislaus four and to the Sierra reserve twenty-two.

Southern California.—The superintendent of the five southern California reserves is B. F. Allen of Los Angeles, Cal. These reserves contain an aggregate area of 3,784,594 acres, consisting of the Pine Mountain and Zaca Lake reserves, with an area of 1,644,594 acres; San Bernardino, 737,280 acres; San Gabriel, 555,520 acres; San Jacinto, 737,280 acres, and the Tabuco Canyon, 109,920 acres. They are divided into five supervisors' districts.

Forty-five rangers in May and June, and ten entering on duty July 15, were authorized.

Colorado and Utah.—The superintendent of the five reserves in Colorado and the two in Utah is W. T. S. May of Denver, Colo. These reserves have an aggregate area of 4,046,720 acres, comprising, in Colorado, the Battlement Mesa, 858,240 acres; Pike's Peak, 184,320 acres; Plum Creek, 179,200 acres; South Platte, 683,520 acres, and the White River Plateau, 1,198,080 acres; in Utah, the Fish Lake, 67,840 acres, and Uintah, 875,520 acres. This district is divided into seven supervisors' districts, each reserve constituting a district.

Sixteen rangers were assigned in June for immediate duty, and eighteen additional entered on duty July 15. Of the first-named on duty two were assigned to the Pike's Peak reserve, two to the Plum Creek, three to the South Platte, two to the Battlement Mesa, three to the White River Plateau, one to the Fish Lake and three to the Uintah.

Idaho.—The superintendent of those portions of the Bitter Root and Priest River reserves lying in Idaho is James Glendenning of Grangeville, Idaho. This area consists of about 3,997,160 acres—about 3,456,000 acres of the Bitter Root and 541,160 acres of the Priest River reserve being in this State.

There are three supervisors' districts, the Bitter Root having two. Benton Mires, Elk City, Idaho, is the supervisor for the southern part of the Bitter Root and W. D. Robbins, Grangeville, Idaho, for the north end. Robert S. Bragaw, Priest River, Idaho, is the supervisor of the Priest River.

Fifteen rangers were assigned for immediate duty: ten to the Bitter Root and five to the Priest River reserve. Eleven at large for duty from July 15 were authorized.

Montana.—The superintendent of all the reserves in Montana is J. B. Collins, Missoula, Mont. These contain an area of 5,040,000 acres, comprising that portion of the Bitter Root lying in Montana, with an area of 691,200 acres; the Flathead, 1,382,400 acres; the Lewis and Clarke, 2,926,080 acres, and the Gallatin, 40,320 acres. Each of these constitutes a supervisor's district.

Twenty-nine rangers were assigned to these reserves in June for immediate duty, eight being for the Bitter Root in Montana, nine for the Flathead, six for the Lewis and Clarke and six for the Gallatin. There were also authorized for these reserves on July 15 nine additional rangers, for assignment to duty at the discretion of the superintendent, making a total force of thirty-eight rangers.

Oregon.—The three forest reserves in Oregon—the Cascade Range reserve, area 4,492,800 acres; the Bull Run, area 142,080 acres, and the Ashland, area 18,560 acres, or an aggregate area of 4,653,440 acres—constitute a superintendent's district, of which S. B. Ormsby, Salem, Or., is the superintendent.

There are three supervisors' districts, the northern division of the Cascade Range reserve and the Bull Run being under the supervision of W. H. Dufur, Dufur, Or.; the central division of the Cascade Range forming another supervisor's district, under Ralph B. Dixon of Roseburg, and the southern division of the Ashland another, in charge of Nat Langell, Jacksonville.

Forty rangers were assigned for the entire season —thirty-seven for the Cascade Range, two for the Bull Run and one for the Ashland.

South Dakota and Wyoming.—The Black Hills reserve in South Dakota and Wyoming, the Teton, the Yellowstone National Park timber land reserve and the Big Horn reserve make a district, of which C. W. Carbutt, Sheridan, Wyo., is the superintendent. The total area of these reserves is 4,407,840 acres, the Black Hills in South Dakota having 1,166,080 acres, and in Wyoming 45,600 acres; the Teton, 829,440 acres; the Yellowstone, 1,239,040, and the Big Horn 1,127,680 acres. There are four supervisors' districts.

Washington.—The superintendent of the reserves in Washington is D. B. Sheller, Tacoma, Wash. These contain an aggregate area of 8,121,880 acres, comprising that part of the Priest River reserve which lies in this State, area 103,960 acres; the Washington, 3,594,240 acres; the Olympic, 2,188,800 acres, and the Mount Rainier, 2,234,880 acres.

The Washington and Priest River form a supervisor's district, of which Edward Burin, Custer, Wash., is the supervisor; F. C. Matheson of Shelton is the supervisor for the Olympic, and George McCoy of Napavine for the Mount Rainier.

Twenty-three rangers—eight for the Washington, six for the Olympic and nine for the Mount Rainier —were authorized for immediate duty, and for duty on July 15 eleven more as rangers-at-large.

Only persons physically, as well as otherwise, qualified are selected for the position of ranger. Old age, indolence, weakness and intemperance are disqualifications which, when made known to the department, will lead at once to the dismissal of the objectionable ranger. These officers are the sentinels in the forest, and absence from their post of duty is not permissible. This regulation guarantees constant vigilance in the hour of fire peril or timber depredation.

THE FIELD.

Bermuda Grass and Its Peculiar Characteristics.

By DANIEL FLINT, at the University Farmers' Institute at Stockton.

The earliest history that the writer knows of this grass is that Mrs. Trobridge brought a small specimen with her from the Sandwich Islands early in the sixties, and planted it in her front yard on N street, betweeen Sixth and Seventh, Sacramento.

The next I learned of it was that Col. Saunders brought some from Missouri, but do not know the date or place where it was planted. I learn that one other person brought some here, but do not know the name, date or place from which it was brought.

I am satisfied if the person who brought it to this coast had known its history and characteristics he would never have introduced it into this country. Future cultivators of the soil will rise up and con-

demn those who were instrumental in introducing this pest into this fair land of ours.

It is a small, thickly-growing, wiry, short grass, not growing over 12 or 18 inches high. It is not very juicy or watery, and animals fed on it can endure much more hardship and driving than those fed on alfalfa.

It makes a fair kind of hay, but is not recommended as a hay crop. It furnishes a great amount of feed per acre, and animals are so fond of it that that they will crop it very close to the ground. The early frost stops its growth and it turns white, and remains dormant during the winter. It begins to grow very early in the spring and soon makes fine feed.

I think more stock can be kept on it to the acre thany any other grass known. It can be propagated from the seed, but this is a slow way.

Manner of Growth.—It has joints every inch or so, and every one of these joints will form roots if they come in contact with the ground. When the grass is first planted it seeks to spread by the spears striking out in every direction, forming roots at every joint. These spears will not attempt to rise in a perpendicular position until all the ground is occupied by them; then they will grow upward and if let alone will blossom, forming seed.

It may be said to resemble a hop plant in one respect in that it has two kinds of roots, lower and upper. The lower ones consist of a mass of fine, fibrous roots, without a tap root, and the grass cannot be propagated from them. These fine roots take a strong hold in the soil and it requires hard shaking to make them let go.

Planting.—The upper roots can be cut into single joints if desired and spread over the ground like seed and rolled, and they will take care of themselves. The best and quickest way to introduce this grass is to take the sod and cut up into small pieces and sow over the land like grain and roll in.

In the Wrong Place.—From not knowing the habits of this grass when I first made its acquaintance it will cost me hundreds and perhaps thousands of dollars to take it out and keep it out of places where I do not want it. I put it on a levee about one mile long to keep the water from washing it away. It served a good purpose as far as that was concerned, for when once fairly rooted it takes lots of water to move it.

In a few years it began to get onto my best land, where I did not want it, The supposition is that the cattle carried it there with their feet, and deposited it in the cultivated land. A few years ago morning glory was supposed to be one of the greatest pests of the farmer, but it has become a mild weed in comparison to the tenacious persistence of the Bermuda Grass. Its tenacity of life is beyond belief to those who have not had a thorough experience with it. It seems to enjoy and thrive by abuse, for you may plant it in a road much traveled and it will thrive and grow green. You may plant it on a bed of dry sand late in the spring and it will live. You may dig up a patch in the hot summer weather and put it on the ground, and next season it will be flourishing better than ever.

To Kill It.—The only sure way I know of is to plow very shallow, expose the roots to the hot sun, and carry them off and burn them.

In Sacramento.—Bermuda Grass is taking possession of the capitol grounds in Sacramento, and in fact nearly every yard in the city. It will kill and choke out nearly every grass, weed or shrub with which it comes in contact. It makes a beautiful green lawn plat when mowed down close, watered and properly attended.

When Secretary Wilson was out here a short time ago it was announced that he was looking for grass suitable for arid districts—deserts, alkali and dry, sandy land. He went through Sacramento so rapidly that I did not have a chance to see and show him this grass in action. I think it would flourish well on the deserts, where nothing grows now, and furnish a vast amount of feed.

On Overflowed Lands.—It will do well on overflowed lands, for it will stand a large amount of water. I have sandy and overflowed land on the American river and any crop that I may put in is liable to be destroyed, therefore I have abandoned the attempt to cultivate the land and have turned 100 acres into timber and Bermuda Grass. It furnishes me lots of timber and an abundance of pasturage. I cut roads at right angles through the timber—say 25 to 30 feet wide—disc the land thoroughly and drop small pieces of the sod over the surface and roll or clod it. In two or three years it will cover the entire space and kill out all other weeds.

To Keep Within Limits.—This grass has got such a hold on the lawns and farms of this State that it will never be entirely killed out, and I think the best way to treat it is to keep it off our best lands as much as possible by shallow plowing during hot weather, carrying off the sod, burning the roots and using a disc harrow to cut the grass into small pieces, planting a hoed crop like corn, which can be cultivated during the growing season. Some persons may think that I am over-timid and am attempting to create an unnecessary prejudice against this apparently harmless little grass.

This grass is bound to make its appearance all over the State sooner or later, and I say to all those who have good agricultural land, make an unremitting warfare against its first appearance and prevent its getting a foothold on your premises, except where you have land particularly adapted to it and which you do not want for agricultural purposes. This grass will give but little trouble on high land, for it is the rich, moist bottom land that it is hunting.

I would say again to every owner of bottom land: Be on the lookout for this grass as you would a thief among your property, and suppress and destroy it at whatever cost on its first appearance on your premises.

Owners of Blue Grass lawns in Sacramento are fully aware of this unwelcome guest, for it intrudes where least expected. Bolts and bars, spades and rakes seem to offer no resistance to its coming. The seed of this grass is very small, and I listened to a suggestion the other day that perhaps partially accounts for its mysterious appearance in lawns several blocks away from where it was known to exist. As Sacramento uses river water for domestic and irrigating purposes, it was suggested that the seed might float down the river, be pumped up and distributed by irrigating the lawns.

If that theory is sustained—and it looks very plausible—that accounts for its appearance in so many places where land is subject to overflow.

[Mr. Flint's paper seems to be both a resolute condemnation and a mild approval for this plant. This is about as nearly right as it can be made. It is serving a good purpose for waste land pasturage, and it is vexing the life out of owners of good, moist, cultivable land. It is here to stay and should be dealt with as Mr. Flint suggests.—Ed.]

METEOROLOGICAL.

Reasons for Presuming the Season Will be a Wet One---Recurrences of Dry and Wet Seasons.

To the Editor:—At the opening of another winter season the question is asked: "Will it be wet or dry?" and, even: "Are there probabilities of its being very wet?" To predict any season ahead seems unscientific. We have scientific reasons for a twenty-four or forty-eight-hour prediction, but not for a season's prediction. And still there are data of a tentative scientific nature that may justify an opinion on the weather—an opinion based on a comparison of conditions in other seasons, and an opinion from the observed recurrences in the past, of wet and dry seasons. We will consider one of these propositions.

Double Dry Seasons.—That a wet season follows every single dry one is not invariably true, but that a wet season follows every dry period is, as far as sixty years' records go, proven to be true.

Back in the middle of the '40s, we are told on reliable authority of the occurrence of dry seasons on the Sacramento plains; this was followed by the wet season of '47, in which the Donner party experienced the unusual heavy snows in the Sierras, (the concomitant of a very wet season). In '50–'51 occurred the driest season on record, followed by a partly dry season—like the last—to be then followed by the drenching wet season of '52–'53. Again, '62–'63 was a season of very light rainfall, followed by the serious drougth of '63–'64. These two seasons were preceded by the greatest flood year on record —'61–'62—and they were subsequently followed in '66 and in '67 by two very wet seasons.

A period of light rains occurred in '69–'70 and '70–'71 (felt more in the interior than on the coast), though not as droughty as the preceding set; this was followed, also, by a wet season.

We come next to the single dry season of '76–'77, followed by the wet season of '77–'78, and then to the last dry period of '97–'98 and '98–'99. If we compare the record of these dry seasons, as recorded in San Francisco, we have a striking resemblance. For the two-year dry period of '50–'51 and '51–'52, the rainfall is 26 inches. For the next dry period, '62–'63 and '63–'64, the total is 24 inches; the next, '69–'70 and '70–'71, was about 33 inches; and for the past dry period—the two years just passed—it is but a fraction over 26 inches. With the exception of the '70s, the three other dry periods have practically the same total of a rainfall; showing conclusively that the movement of the Japan current was similar, and was very light at this period, or, rather, its movement was more in its northerly, or summer course, than usual.

But, as each period was followed by a very wet one, the current, therefore, invariably retraced its course back. The records of the past have thus shown that the last dry period has had its identical type in the '40s, '50s and '60s, partly so in the '70s. The past seasons are not, therefore, exceptional, as some have thought them to be, and the weather, to equalize itself, should likewise in turn now bring us a wet season.

Opening of a Wet Season.—The indications are already pointing to such a season. Years of recorded observations have to me characterized in a measure the opening of a winter season. This season, since September, for instance, is characterized by excessive dews on all clear nights, by excessive September coast fogs—in short, by a general excess of atmospheric moisture, irrespective of the actual rainfall.

Most characteristic of all is the manner in which the first rain fell. The first storm area struck in directly off the south coast between San Francisco and Point Conception, with no rain at the time in Oregon or Washington. Usually rain storms enter off Oregon or Washington and are deflected down the coast.

October Rains Contrasted.—In the wet season of '89–'90, which also opened up in October, the first rains, even heavier than this year, entered opposite the same south coast. October rains are not in themselves indicative of dry or wet seasons, but the manner in which they come is more or less suggestive. Our second rainy spell of this October entered at Vancouver, was deflected south, but tapered off southward, accounting for the lighter rainfall south. In the wet season of '49–'50 heavy rains fell in October. The greatest record of October rains was in the wet season of '89–'90. But then heavy rains fell in San Francisco in the dry year of '76–'77.

But there is this difference: In October, '76, preceding the dry year, 3.36 inches fell in San Francisco, while in Santa Barbara, for the same month, only .32 of an inch fell—hardly 10% of the rain. But in the wet season of '89–'90, when 7.28 inches fell in the city, 8½ inches fell in Santa Barbara. Of earlier Octobers we have no records at our command. Most other October rains since were too slight for contrasting comparisons.

We see, then, that there is a very rapid tapering off southward in the drier Octobers, and not so in Octobers that precede wetter seasons.

Barometrical Characteristics of Dry Seasons.—Barometrically there is the greatest characteristic differences between the wet season type and the dry season type, especially after November has well set in. In November, '97, and in November, '98, (the fore part of last year was very dry), high barometers prevailed almost continuously over the plateau regions of Nevada, Utah and southern Idaho, with an extension of this high barometer southwestwardly toward the coast. The location of this high barometer caused so much northerly wind southward. This high barometer resisted the approach of every northerly storm, and no single southerly storm entered the coast from March, '97, until March, '99. The single heavy rainfall of March, '99, alone retrieved that season. About half of the twelve months' rain fell in that one month. This was comparatively a southerly storm; it struck in centrally over the bay region and did not have its origin above Eureka.

The saddling of this high barometer area over the plateau region, with an arm towards the ocean, is the characteristic dry-weather type. It was this way in '93–'94, when, to all appearances, the fore part of the season threatened to become as memorable a drougth as '97. But in the middle of January, '94, a storm area of great intensity came from off the ocean, and the low tusseled this persistent high from off its pedestal, and thus allowed the rain to enter.

In another issue I may discuss these high and low barometrical areas and their movements. Suffice it to say that, so far, no signs of any set highs appear above the plateau region, and every other indication, as well, points toward a wet season. It may probably be some interval before the heavy rains set in; usually it is so when the season opens up too early; but we may expect heavy December rains and probably fair November rains. L. E. Blochman.

Santa Maria, Nov. 4, 1899.

THE VINEYARD.

Two New and Promising Grapes.

To the Editor:—In May, 1897, Prof. S. B. Heiges, then U. S. Pomologist under Secretary Morton of the Department of Agriculture, sent me four scions of the Hungarian Millenium grape, accompanied by the following letter:

This grape was named in commemoration of the foundation of Hungary as a nation, one thousand years ago. The scions were sent by Sigismund Katona of Kuchemet, Pest, Hungary. The illustrations accompanying the scions represent a very magnificent trunk, with large individual berries. We retained some of the scions and propagated from single eyes, fearing that there might be difficulty in getting them to unite with stocks in their dried condition. We have forty promising plants which we can send out next fall should grafting fail.

The four scions received were grafted on strong resistant vines; three of them united well and made so strong a growth that they already set an abundant crop in 1898. We hoped to taste them then,

but alas for our hopes, the chickens forestalled us and we could taste only a few berries which were so promising in quality that we grafted about fifteen vines with cuttings from the grafts. They bore an abundant crop this season. I tasted them about the 15th of September, when the first crop was fully ripe, and the following is a description :

Vine a strong grower, with close joints; leaf large and heavy; heart-shaped, not lobed. Vine vigorous and stocky; well adapted for close stool pruning; very productive, producing, after the first crop has ripened, an abundance of second crop of good-sized bunches already fully grown. Bunch medium to large, compact, shouldered; berries large, round, resemble the Malaga in shape and size, white, transparent, with few seeds, very sweet, of pure flavor, skin not thick but tough, will no doubt ship well, quality best.

That this will make an excellent market grape and will keep well I am fully satisfied, as it kept here in excellent condition for over two weeks, retaining its delightful flavor. I believe also that it will make an excellent white wine, though of course it could not yet be tested for that purpose.

The Hybrid Franc.—By the kindness of Dr. N. M. Coomes of Cloverdale, Sonoma county, I am in receipt of some of the fruit of this new grape. It is a hybrid of the Rupestris, one of the hardiest and most resistant American vines, with the Cabernet Sauvignon, one of the most celebrated red wine grapes of Europe, and seems to have stood a ten years' test in France. Dr. Coomes writes to me that a two-year-old graft produced 120 bunches by actual count, produced by long pruning on laterals.

The grape is evidently too tender for shipment and arrived here in poor condition, but promises highly for a first-class red wine. It is the thinnest skinned grape I have yet seen and only careful handling will bring it to a home winery in good condition. In foliage and resistant qualities it seems to be a true Rupestris, while its quality and flavor show its European parentage. The following is a description of the bunch and berry :

Bunch cylindrical, small, rather loose; berry small, about the size of Cabernet Sauvignon, black with blue bloom, round, very juicy, tender, with a trace of the flavor of Cabernet Sauvignon. The juice is very dark, purplish, with so much color that it stains the fingers—the darkest I have yet seen in any cultivated grape.

These two grapes may be taken to present the extremes; the first large and heavy, a true table grape, white and transparent; the last small, very tender, black with very dark juice, only valuable for wine. I consider both very promising indeed.

Napa, Nov. 10. GEORGE HUSMANN.

SHEEP AND WOOL.

Sheep Grazing in Arizona.

By E. S. GOSNEY of Flagstaff at the convention of the American Forestry Association at Los Angeles.

The object of the American Forestry Association and of the Department of Forestry of the United States Government is to be attained, if at all, by candid, conservative and careful investigation of all the conditions of each locality and the establishment, for each locality, of such conservative regulations as the conditions, after such study, are found to require. There have been in the past many statements of a general nature, some of them coming from apparently high authority, that were based upon facts and conditions found in limited localities and applicable only to such localities. Such statements are extremely unfortunate, not only because they are unjust to local interests, but that they break the confidence of the settlers of these localities in the Department of Forestry and bring into ridicule the whole plan of forest reservation among the settlers, on whom, in Arizona, at least, the preservation of the young forest most depends.

In the July *Forester* appeared an article on "Natural Reforestation in the Southwest," in which the author discussed sheep grazing in the forest reserves of central Arizona from the standpoint, evidently, of facts and conditions found in California, and falls into the grievous errors above referred to. I do not wish to criticise the author, who, we feel, was the victim of misplaced confidence, with, possibly, too much theory on the science of forestry, but justice to the high aims of the Department of Forestry, as well as to local interests, demand that the facts be known and that these errors be corrected before injustice is done. I quote from the article referred to :

"The topography of southern California and Arizona is such that, at best, much of the rainfall flows off in immediate floods," etc. After the statement in most positive terms of the necessity of excluding sheep from the forests of both California and Arizona, the writer adds, in justification of his position :

"As a specific instance in illustration of the destructive effect of grazing, the forest reserve in central Arizona may be cited. Many of the streams that flow into the Salt river have their sources in these reservations. Whenever sheep have been driven there in large numbers, the farmers of the Salt river valley have suffered material injury from the canals and laterals filling with sand and silt." Then follows a paragraph on the same subject which is probably quite practical and true, for the precipitous mountains of southern California, but, if intended to apply to the forest reserves of central Arizona, it is worthy the pen of a Cervantes.

The Arizona Reserves.—There are three forest reserves in Arizona: the Black Mesa, the Grand Canyon, and the San Francisco Mountain forest reserve. The former lies on the east border of the Territory. As the waters of the Grand Canyon reserve all flow, when they flow at all, into the Colorado river, that reserve could not be referred to or affect this question. In fact only a small per cent of the other two reserves lie on the southern slope. After a residence of eleven years at the foot of the San Francisco mountains, and constant familiarity with all parts of the latter reserve, and with the grazing of both cattle and sheep thereon, we are forced to the conclusion that the author of the article referred to has been imposed upon by the parties from whom he derived his information.

The district composing this reserve, and the western end of the Black Mesa forest reserve as well, is a plateau comparatively level, 6000 to 7000 feet above sea level, covered for the most part by an open forest of pine timber bounded on the borders, where the plateau descends into the deserts of timberless plains, with a belt, a few miles in width, of scrubby cedar. On the south it breaks off abruptly into the tributaries of the Salt river, the head waters of which extend into this plateau in the form of precipitous canyons 1000 to 1500 feet deep, which are fed by numberless springs that burst out at the bottom of these canyons.

The formation of this entire plateau is volcanic. It is covered with extinct volcanoes, and evidences of volcanic influence. The stratified formation is everywhere broken and shattered, and the soil is of a loose, porous nature, so that the rains and melting snows are drunk by the soil like a sponge and appear again, if at all, only at the bottom of the canyons, or small springs, at rare intervals on the mesa which disappear in a short distance from the point at which they rise. We have absolutely no running streams on this mesa, or forest reserve. It is not precipitous, and does not wash. To illustrate: The draw that passes through Flagstaff heads at the foot of Mt. Agassiz and topographically drains an area of more than 200 square miles, has no outlet, but empties into a little valley five miles east of town. It seldom runs to this valley, and never more than once or twice during the year, and is often dry the entire year.

The forest reserve districts of Arizona have been used for grazing sheep for twenty to thirty years. We have never before heard it claimed that "the canals and laterals of Salt river valley filled with sand and silt" because of the sheep grazing on the forest reserves which lie 200 miles farther up the river; and one familiar with the mountain plateaus and with the dry, sandy, dusty and windy districts and plains through which the waters of the Salt river and the canals and laterals of the Salt river valley flow, after leaving the mountain forest reserves, would be hard to convince that the sheep on the mountain materially affected the filling of the canals and laterals referred to. If there were any such results, they would be constant, and it could not be said that "whenever sheep have been driven there in large numbers," etc., these results were seen, because the ranges of these forest reserves have been used constantly for twenty years, and the results would be constant and universal in the Salt river valley.

Arizona Sheep Ranging.—There is little in common with the sheep grazing industry of Arizona and that of many districts, perhaps any district, of California. The scarcity of water on the mountain plateaus of Arizona has confined the summer ranges of each individual sheep breeder to a more or less definite locality during the summer and dry season, within which he owns or controls the permanent water supply.

The great enemy to the forest and to the wool growers is the forest fires, which burn up the feed for the flocks and destroy the young and tender pines. The grazing off of the grass and weeds by the sheep and the vigilance of the sheep owners are the greatest safeguards against these forest fires. Where the timber has been cut and the laps and brush left scattered upon the ground, these fires are inevitable, and destructive to much of the larger growth. Steps should be taken to require parties cutting timber to clean up carefully all combustible material left behind, whether on private or reserve lands.

How Sheep Graze.—It is the popular idea that sheep graze in close, compact herds and hence trample out what they do not feed off. They are not closely herded or bunched except in driving or corraling, which, in well managed herds, is seldom done, and when scattered on the range the tramping of the small tree plants is slight.

There are in the San Francisco Mountain forest reservation districts on which sheep have been grazed constantly for twenty years or more, others on which cattle only have grazed, and a few districts on which neither have grazed at any time to any considerable extent, and we have yet to find the man who can go over these districts and point out which district has been grazed by sheep, which by cattle, or the district on which no stock has ranged. There is practically no difference in the growth of these districts. It is claimed by the oldest settlers that forest fires were more frequent and destructive in the early settlement before the grazing by sheep and cattle, and that in the growth of the young pine, the reforestation is greater where it has been protected by the stock and owners of the stock. Systematic effort on the part of both the Department and the herdsmen will bring much better results. Let us have an intelligent, candid investigation of this question in each locality by capable men who come seeking truth, and without preconceived notions and theories which they, consciously or unconsciously, seek always to sustain and prove.

AGRICULTURAL SCIENCE.

The Reclamation of Drifting Sand Dunes.

By JOHN MCLAREN, Superintendent Golden Gate Park, San Francisco, at the Forestry Convention in Los Angeles.

About 700 of the 1040 acres composing the reservation were originally acres of drifting sand that moved with every storm, heavy gales sometimes moving it to a depth of 3 feet in twenty-four hours. This sand is sharp and clean, with nothing in its composition of a loamy nature, barren and poor, so poor that barley sown on its curface, after being plowed and cultivated in a favorable season with plenty of moisture, grew only about 6 inches in height, and failed to perfect its seed, although perfectly protected from winds by a high embankment on its westerly side.

The first operation necessary in the reclamation of ground of this sterile nature was to bind the sand to prevent its moving. Experiments were made by sowing barley, also by sowing seeds of the blue and yellow shrub lupin, *Lupinus arborea*, also by planting seeds of *Pinus maritima*, all of which were partially successful; but the first complete success was with the planting of the entire area with the sea bent grass (*Calamagrostis arenaria*), which was done by planting the roots about 3 feet apart, and run in with the plow. A furrow was run about 15 inches deep, in which a few roots were dropped, about 3 feet apart; then two furrows were turned, in which no roots were set; in the third furrow roots were again planted, and so on over the entire tract. Where the dunes were too steep for horses to travel, pits were dug by hand and the roots planted the same distance apart as when the land was plowed, care being taken to firmly press with the foot the sand immediately about the roots. Moist or even wet weather is, of course, the best time to plant this grass, the best season for planting being between December 1st and February 15th. If planting be delayed much longer, dry weather is apt to set in before the plants become firmly rooted, and the consequence is many are lost either by drought or by being blown out by the winds.

Where any large areas of plants were blown out by the roots, care was taken to have the ground immediately replanted, a gang of men being sent after every storm to pick up the scattered roots and to plant them deeper, if possible, than before. The entire tract being planted with this grass, the next operation was the building of brush fences across the wind about 100 yards apart and from 4 to 6 feet in height, on the sheltered side of which young seedling trees were planted, averaging 5 feet apart. A variety of trees were experimented with, among which were the Norway maple, which is so highly recommended in European works of reclamation; the tamarix and the poplar, the Monterey cypress, the *Pinus insignis*, *Pinus maritima*, *Acacia lophantha*, *Acacia latifolia* and the eucalyptus, *Viminalis*, *Globulus*, etc. All these made satisfactory progress, excepting the Norway maple and the poplar, the summer winds blowing off every leaf, almost as soon as formed. The *Acacia latifolia* and *Acccia lophantha*, the Monterey pine, Monterey cypress and the tamarix are all about equally adapted for standing exposed sea winds, and all seem to thrive equally well in the sand; but we find that the barren sand does not contain nutriment sufficient to grow trees more than 10 feet in height, or until the tree begins to form heart wood.

About that stage of growth the tree begins to show signs of distress, the leaves of the conifers gradually grows shorter, the bark gets bound and the whole tree shows a stunted, starved look. Acres and acres are now in that state, and, unless given assistance, will die outright. Several years ago the work of fertilizing the forest trees was begun, and wherever a load of loam, manure or other rich dressing was spread, the hungry tree responded very quickly by making good growth, a more thrifty look was noticed, and in less than a year they had a vigorous, healthy look, showing that want of nourishment alone was the cause of their stunted appearance.

Now that the young pines, cypress, eucalyptus, etc., are up to 20 feet or more high, with good soil and plenty of water, most any tree that thrives in the neighborhood will do well. The willow, elm and poplar, as well as the oak and maple, are doing very well, and all of the shrubs, such as rhododendrons, azaleas and many others, are doing very well indeed, protected as they are by the shelter of the hardier kinds.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

LARGE MUSHROOM.—Pleasanton *Times*, Nov. 11: Chas. Bray brought to this office a mushroom which measures 13¼ inches across the top, while it is about 2½ incbes thick through the widest part. Tbe stem is 5 inches in diameter. Tbis is probably the largest mushroom found in the county.

BEET INDUSTRY.—Pleasanton *Times*, Nov. 11: Since Sept. 1st and up to Oct. 31st 383 cars of sugar heets have been shipped to Alvarado. There were 20,758,836 pounds, or 10,379 tons. The farmer is paid $4 a ton, which gives $45,520. The largest number of cars shipped in one day was twenty-one. Last year as high as tbirty-five cars were shipped in a single day and by a singie train; but the cars this year have mucb bigher sides. On an average 27½ tons are loaded on a car, against about 20 tons last year. Shipping will probably last tbree weeks yet, and about 250 cars will be added to this. Tbere will be about the same shipped this year as last, with 300 acres sbort in acreage. On an average ten tons is barvested from an acre, while some land produces as high as twenty-five tons to the acre.

GOOD FRUIT YEAR. — Oakland *Enquirer:* Horticuitural Commissioner Barry of Niles has submitted his quarterly report to the Board of Supervisors. Following is the text: The past season bas proven a very prosperous one for tbe fruit industry in this township. Apricots, peaches, prunes, etc., have met with ready sales at higb prices. All the fruit bas sbown a clean condition, entirely free from smut, leaving the fruit in a bright, marketabie condition, satisfactory to the purcbaser and grower, orchardists expressing tbemselves as pleased with tbe results obtained in the eradication of scale insects. By the introduction of the internal parasites of the brown apricot scale (*Comys fusca*), the past two years, I hope to entirely clear the orcbards of tbat pest. Some orchards show 75% of tbis scale parasitized already. Tbe coming year will show a more decided improvement. During the past month I have collected and distributed over 280 colonies or over 7000 beeties (*Rhizobius ventralis*), tbe enemy of tbe black scale. I cannot find any locality in the district where there is an orange, lemon or olive tree in which I cannot find the beetles in greater or less degree. Tbe almond has heen a full crop in this part of the country, and the prices have heen higher for them than they have been for a number of years, with a ready sale. Tbe harvesting is about done here. The raising of the grade of the county road between Alvarado and Centerville has resulted in the making of hundreds of acres of excellent vegetable land by the deposit of from 1 to 2 feet of fine sandy alluvium. Tbe Burbank potatoes grown on this land equal the best Salinas Burbanks in the market.

Butte.

FIRST TRAINLOAD OF ORANGES —Marysville *Appeal*, Nov. 13: Tbe first trainload of oranges this season from the State was shipped by the Schnabel & Skinner Co. to-day, consisting of eleven carloads, for Eastern cities. The above firm bought the Hearst crop and several smaller crops of oranges at Palermo. They employ from sixty to seventy-five pickers and teamsters in the groves, besides thirty-five lady packers and twenty box makers, graders and car loaders in the packing house. This firm expects to ship fifty carloads during November. All the oranges from this section will likely be marketed by Cbristmas.

Fresno.

RAISIN DRYER BURNED.—*Republican*, Nov. 9: W. D. Foote's raisin dryer was burned last night, together with 15,000 trays of raisins.

CORN CROP.—Sanger *Herald*, Nov. 11: Tbe new crop of Indian corn from the Kings River bottom is being hauled into town. While tbe price is not high, tbe yield per acre is generally satisfactory, and the crop will prove a profitable one. We understand that farmers are selling shelled corn at $16 a ton.

PRODUCTIVE VINES.—Selma *Irrigator*, Nov. 4: J. F. Crowder bad two pie melon vines this year that for productiveness eclipse anything we bave heard of in their line. The two vines produced 116 melons, weighing 2045 pounds. One vine had 1075 pounds of melons and tbe other 970 pounds. The heaviest melon weigbed 57 pounds.

BEE INSPECTOR'S REPORT.—*Republican*, Nov. 9: The monthly report of J. J. Bowen, bee inspector of Fresno county, shows that he inspected 975 stands during the month, 75 of which were infected with foul brood and ordered burned. The report continues as follows: "In order that you may have some idea of the importance of the bee industry in this county, I will give a few facts I learned from the owners whose hives I examined with reference to the income from tbem. J. H. Fiory received from the output of his 210 stands $1250; Burr Roye for that of 160 stands, $1260; A. J. Bird from his 103 stands, 43 of which were infected with foul brood, only $203; H. G. Schwab from 23 stands, $60; H. P. Christiansen from 50 stands, $225; Homer Bideli from 103 stands, 8 of which were infected, $450; J. J. Bowen from 24 stands, $427."

ORANGE SHIPMENTS.—Sanger *Herald*, Nov. 11: Up to the present time four carloads of new-crop oranges have been shipped—two by the Earl Fruit Co. and two by the Sparr Fruit Co. Buyers are offering the growers $1.10 net per box for Seedlings and $1.65 for Navels. Several carloads have been sold at these prices. So far no returns have been received on the fruit consigned to Eastern firms, but is believed that the prices will exceed the above quotations.

Humboldt.

EARLY GRASS. — Arcata *Union*, Nov. 11: Reports from southeastern Humboldt are to the effect that grass in that section is doing finely and that on some ranges it has already attained a height of 4 inches. So many cattie were driven from the ranges during the summer that tbere was more than the usual amount of seed, which gives additional strength to tbe new crop.

Los Angeles.

REFORESTIZATION.—Pasadena *Star*, Nov. 8: W. G. Kerckhoff intends to send men into the mountains later in tbe month to plant trees on the devastated portions near the San Gabriel canyon. These men will clear the brush and ashes off the burned portions in areas of an acre or two and plant seeds of spruce or fir, such as have been recommended by Mr. Lukens, and also some other varieties. This work will be done at his own expense simply as an experiment and to show how tbe mountains can be again covered with forests with a little expenditure of time and money.

OSTRICH TRUSTS.—Dispatch from Pasadena, Nov. 11: Two ostrich trusts have been formed in the south, judging by the deals which bave of late been consummated. A. Y. Pearson is one monopolist and Edwin Cawston is another. Recently all the ostriches in southern California were sold to J. Stein, representing a New York syndicate. Edwin Cawston's South Pasadena birds were the only ones exempted. Now the New York syndicate has sold the 300 birds to Pearson, and Cawston has purchased all the birds on the Hawaiian islands, as was announced some time ago. One of Pearson's farms will be located in Jacksonville, Fla., and the other somewhere in southern California.

Modoc.

ENCOURAGING THE SHEEP INDUSTRY. — Marysville *Democrat*, Nov. 7: The supervisors of Modoc county, instead of piling up taxes to drive out an industry, have passed an ordinance that will encourage and promote the raising of sheep. It is to the effect that any person engaged in raising sheep shall be paid a bounty of 4 cents per head per annum.

Placer.

FREAK APPLE BLOOMING.—Colfax *Sentinel*, Nov. 10: J. F. Brown brought to this office last Saturday some beautiful apple blossoms taken from an apple tree in bis yard. The tree is a large one and is loaded with the blossoms.

Riverside.

NEW WATER COMPANY.—*Press*, Nov. 11: Articles of incorporation have been filed by the Fruitvale Water Company, capitalized at $50,000; $2350 has been subscribed. Tbe directors are P. J. Perrine, T. H. Sullivan and J. P. Kirby of San Jacinto and D. N. Downing and K. S. Carlton of Hemet.

IRRIGATION DISTRICT INVALID. — Dispatch from Riverside, Nov. 13: Judge Noyes bas banded down a decision in the case of A. J. Condee vs. the Alessandro irrigation district in favor of tbe plaintiff. The plaintiff brougbt suit to have the district declared void and tbe bonds issued by it declared invalid on the ground of irregularity in the proceedings incident to the formation of the district, and by the decision the district is knocked out. This decision finishes up all the districts of the county formed under the Wright law.

CONSOLIDATED FORWARDING COMPANY INCORPORATED.—*Press*, Nov. 11: Articles of incorporation of the Consolidated Forwarding Company have been filed. The capital stock of tbe company is $2000. The papers set forth that the objects of the company are to engage in the transportation business, tbe product to be bandied being fruit, vegetables and otber products of the soil. Tbe company also provides in its incorporation for the owning and control of all kinds of property necessary for the carrying on of the business for in which it is proposed to engage. The directors of the incorporation are W. G. Spence of Los Angeles, Leland Lyon of Redlands, A. G. Stearns of Highland, and W. P. Lett, E. S. Moulton, C. E. Maud and H. J. Doolittle of this city.

EXPERIMENTING WITH LEMONS. — Corona *Courier*: C. E. Towney of Orange is attempting to make his lemons bear when the fruit is most salable. When his trees are loaded with fruit at a season when the market usually is unfavorable, he sacrifices the crop, stripping the trees of all fruit, whether ripe or unripe. He then starves the trees by withholding irrigation till the time approaches when it should blossom, in order to bear fruit in season for a good market. This time will be about Septemher, as it takes from seven to nine months to develop fruit from the bud. Therefore, in August he resumes irrigation, fertilizes and does everything expedient to hasten the tree's resumption of activity. He expects the trees quickly to respond to his efforts to become covered with blossoms, which will yield ripe lemons the next midsummer, when they sell best. He further expects that a tree thus treated will, after a time, conform itself to circumstances and need no further coercion.

Sacramento.

FARMERS ARE PROSPEROUS.—*Bee*, Nov. 11: Sacramento and the surrounding counties are enjoying an unusual season of prosperity. Every one of the local savings banks attest to the fact that more loans are being paid off at this time than has ever been noted during a like period. Interest is low and mortgage loans and back interest are being paid off rapidly. A few years ago there was a decline in country property, but a different state of affairs now exists. In some cases, said one of the officials, bis bank had requested mortgagors not to pay off their mortgages, advising them to use the money for some investment rather than tendering it to the banks. Renters were plentiful and all the vacant farms were rented. Farms were in demand, both by renters and intending purchasers, and those banks which held country property felt that they could dispose of it at figures easily covering the principal and accrued interest. County Recorder R. T. Cohn noticed tbe increase in the business of the office within the past year, with respect to recording releases of mortgages. He says that the releases run from five to seven a day. One large farm in the southeastern part of the county this year paid off $25,000 on its $60,000 mortgage. The other day one farmer, who said that his place had been mortgaged for twenty years, stepped in and recorded the document which released him from all debt and made him feel like "a free man" again.

ORANGE CROP POOLED.—Folsom *Telegraph*: Tbe orange growers of Orangevale have pooled their entire crop and turned it over for marketing to a committee consisting of T. B. Hall, V. S. McClatchy, C. S. Givens, J. B. Portwood and J. G. Kellogg. Tbe crop is estimated by experts of the shipping houses at twenty carloads, largely fancy fruit, the predominating variety being Navel.

San Bernardino.

ORANGE SHIPPING.—Redlands *Facts*, Nov. 11: The first shipment of oranges will be made from the Orange Growers' Association on Monday, when 100 boxes will be shipped to Manila for the Christmas trade in the Philippines. This is believed to be the first shipment of oranges for the trade to the new American possessions in the far East. The fruit has colored up remarkably rapidly during the past ten days, and some of it will be in better condition for the holiday trade than was expected. In view of tbe rapid coloring several packers will begin putting up some of the fruit next week to fill orders for extra early shipment, and it is expected that most of the houses will be packing their holiday fruit by the 25th inst.

San Joaquin.

BIG PUMPING PLANT.—Stockton *Mail*, Nov. 9: Reclamation District, No. 548, has contracted for a pumping plant capable of raising 25,000 gallons a minute. Tbe cost is $7100. Ditches are to be dug, so that the plant will serve both for draining and irrigation.

Santa Clara.

WINERY CLOSED.—Los Gatos *Mail*, Nov. 9: The Los Gatos & Saratoga Wine Co. bas closed down for the season, after having crushed 1250 tons of grapes and made 200,000 gallons of wine.

Solano.

DISCARDING FENCES.—Vacaville *Reporter*, Nov. 11: Year by year there is less and less fencing in orchards. Driving out from Vacaville among the orchards in any direction, you will see no fences. This is as it should be. The fences are a costly item of expense and are the occasion of untidy cultivation. Without the fence the orchard is better cared for and looks much trimmer and neater.

Sonoma.

LATE CANTALOUPES.—Santa Rosa *Press-Democrat*: E. Thomas has at bis place on West Eighth street cantaloupes of a winter variety in season from the latter part of October until late in December. The fruit is very firm and luscious and is especially acceptable, owing to the absence in the markets of all other varieties of melons.

GRAPE CONTRACTS PAID.—Cloverdale *Reveille*, Nov. 11: The Cloverdale Wine Co. paid off their grape contracts the first of the week, and, in consequence, over $9000 has been distributed among the grape growers in this section. Fourteen dollars was the average price paid per ton, and over 650 tons of grapes represents the season's crushing.

HOP AND PRUNE SALES.—Santa Rosa *Republican*, Nov. 9: A number of hop sales have been made recently, but the brewing biossoms have not yet begun to move very rapidly from the hands of the grower to the vats of the brewer. The highest price paid in this city, so far as learned, is 11¾ cents. Prunes are moving pretty rapidly now, though the price being received by the grower is by no means satisfactory. Nevertheless the shipments are increasing and the warehouses are being rapidly cleaned out.

POULTRY ASSOCIATION.—Petaluma *Courier*, Nov. 8: The Poultry Association at its annual meeting elected officers as follows: President, Lee Sales; vice-president, Robert Hyatt; secretary, H. Johnson; treasurer, H. L. Pease. An enforcement committee of five was elected to handle the business of the association between meetings. The committee consists of R. M. Hyatt, H. Hagedohm, G. J. Armstrong, F. Zimmerman, C. D. Grover. A resolution was passed making the next meeting the first Saturday in January, 1900, at 2 P. M., and every three months thereafter.

GOATS IN FAVOR.—Healdsburg *Enterprise*, Nov. 4: Raising Angora goats has not been tried by many, but Mr. E. G. Furher has become quite an enthusiast in the matter. Five years ago Mr. Furher bought fifty thoroughbred Angora goats, and to-day from the increase alone his flock numbers 260 head. Considering that a thoroughbred goat shears about fourteen pounds of wool each year, and it sells for from 22 to 30 cents per pound, this seems to be quite a profitable investment. The goats are also valuable for clearing land for vineyard. After cutting the wood from a piece of land goats are turned in and in five years, without any other attention to the land, it is ready for the plow.

TO KILL GOPHERS.—Petaluma *Argus*: Samuel Fisher recommends the use of coal oil to clear out gophers. He says that the proper way to use it is to find fresh signs of the pest, clean out tbe dirt down to the open runway and pour in from a cupful to a pint of coal oil. The gopher can't stand the fumes of the coal oil, which pervade the underground passages, and be hunts a new location at once.

Stanislaus.

FAIR DIRECTORS ORGANIZE.—Modesto *Herald*, Nov. 9: The newly appointed directors of the Thirty-Eighth Agricultural District, consisting of Stanislaus county, organized on Saturday. A. L. Cressey was elected president, L. B. Walthall secretary and F. A. Cressey treasurer. It was decided to hold a fair next year, when two years' appropriation by the State will be available.

Sutter.

LATE CROPS.—Yuba City *Farmer*, Nov. 10: Along tbe sloughs and rivers the balance of the late crops are being gathered and the loss on account of tbe early rains will not be very heavy after all. Beans, corn, buckwheat, clover seed, etc., will soon be all under cover, and corn and potatoes will be all right unless an overflow occurs. The wheat and barley on the river bank has all been shipped but a small portion.

SUMMER-FALLOWING AND WEEDS. — Yuba City *Independent*, Nov. 10: In conversation with some of our farmers this week we were informed that the early rains bad produced an immense quantity of weeds, and that most of the summer-fallowing would follow the plowing up of tbe weeds. Tbis is a good thing and will insure a much cleaner and better crop next season; some of the farmers think the wheat will be 10% heavier as a result of the weeds coming up now. A few who had sown their summer-fallow were compelled to plow and resow.

Yolo.

HORTICULTURAL COMMISSIONERS' ANNUAL REPORT.—Winters *Express*: At tbe meeting of the county Board of Horticulture the following annual report was read: "During the spring and early summer months we visited nearly all the orchards in tbe county, as well as the packing houses and town lots where there are fruit trees, and thorough work was done in eradicating all insect pests injurious to trees. For three years past but little interest has been taken, but the past year the fruit industry has revived, and a great deal of interest is manifested both in cleaning the orchards and producing a better grade of fruit. I note with pleasure the cheerfulness on the part of some of the orchardists along the Sacramento river. Last year they refused to spray for scale. This year they got in early and did the work well. Many almond orchards along Putah creek are suffering from root knot. As yet we have found no successful remedy. A very small acreage has been planted to fruit, but this season bas been especially good, and I believe a new impetus has been given to the planting of fruit trees. Our water facilities are ample for all fruit and alfalfa lands, and there is already a plan on foot for utilizing them. With a united effort on the part of the fruit growers of Yolo county to extend the present co-operative system of marketing their fruit, success is assured.—J. W. ANDERSON, Secretary."

Horse Owners! Use

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Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

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The Best Food for Infants

Nature planned that infants should have only milk for at least the first year of life. But thin milk, skimmed milk, will not nourish. It's the milk that is rich in cream, or fat, that does the work. This is because fat is positively necessary for the growing body.

Scott's Emulsion

contains the best fat, in the form of Cod-Liver Oil, for all delicate children.

They thrive greatly under its use. Soon they weigh more, eat more, play better and look better. It's just the right addition to their regular food. The hypophosphites of lime and soda in it are necessary to the growth and formation of bone and teeth.

At all druggists; 50c. and $1.00.
SCOTT & BOWNE, Chemists, New York.

THE HOME CIRCLE.

A Legend.

Once in an ancient city, whose name I no longer remember,
Raised aloft on a column, a brazen statue of Justice
Stood in the public square, upholding the scales in its left hand,
And in its right a sword, as an emblem that justice presided
Over the laws of the land and the hearts and homes of the people.
Even the birds had built their nests in the scales of the balance,
Having no fear of the sword that flashed in the sunshine above them.
But in the course of time the laws of the land were corrupted;
Might took the place of right, and the weak were oppressed, and the mighty
Ruled with an iron rod. Then it chanced in nobleman's palace
That a necklace of pearls was lost, and ere long a suspicion
Fell on an orphan girl who lived as maid in the household.
She, after form of trial condemned to die on the scaffold,
Patiently met her doom at the foot of the statue of Justice.
As to her Father in heaven her innocent spirit ascended,
Lo! o'er the city a tempest rose; and the bolts of the thunder
Smote the statue of bronze, and hurled in wrath from its left hand
Down on the pavement below the clattering scales of the balance.
And in the hollow thereof was found the nest of a magpie,
Into whose clay-built walls the necklace of pearls was inwoven.

—Longfellow.

The Recompense That Returns.

"I have come to ask your advice, Annie," said Mary Carter, entering her sister's small bedroom, "but first let me warm my frozen fingers for the afternoon is fearfully cold."

She threw her snow-dusted cloak on the only vacant chair, and tossed her black hat on the bed; she coiled up at Annie's feet in front of the meager register.

"Well, darling, what is the trouble now?" and the elder sister look down at the fair young face and at the sweet eyes so wistful and sad.

The two girls were orphans, and were toiling in the respectable harness of—teaching. Theirs was the oft-repeated story of New York life. The father had failed and had not strength to rally again, and the frail mother soon followed her husband to the rest where the weary are sleeping. A rich relative had educated the girls that they might be independent, and, therefore, now they are battling and stuggling in the great city, whose God is gold! Annie, the elder by two summers, was a gentle-eyed girl of twenty-two years, one of those calm, self-relying natures that rise in all the strength of the old martyrs when circumstances so require; a heroine born, that storms only strengthen, misfortunes make grand; with a pure, classic face—a face that men gaze on more in admiration and respect than passionate love; and she strove and suffered as resident English governess in one the large fashionable schools of the city, while the younger, the impulsive, sensitive Mary, was teaching Mrs. Vale's four children in a beautiful home on the avenue.

On Thursday Mrs. Vale had issued cards for a grand ball the following week, and to ask Annie's advice in reference to this ball the young girl had braved the driving November storm.

"And now, Annie, help me to decide, for although Mrs. Vale is exceedingly kind to me, even urging my presence on the plea of friendship, yet all that is soundly practical in my nature counsels me to come here, stay with you till ten, at which hour your 'retreat' is sounded, and then creep quietly back into my own little room and read till sheer weariness sends me to bed."

"Would it not be better, darling, for you to please Mrs. Vale?"

"Better, Annie?" and her eyes flashed, "better to feel the pangs of a position to which I have not been born? True, Mrs. Vale is a considerate woman, and would shield me if she could; but will her guests regard this protection? I know the woman better! 'Who is that?' some jeweled shoddy will exclaim, and how can the question be answered? I am neither Mrs. Vale's relative nor guest,—but the governess of Mrs. Vale's children."

Her voice trembled, and her eyes were full of tears.

"No, Annie," she continued, "I have no place in society, and it is safer not to risk attack.

Annie felt the truth of her sister's logic, yet she knew that it was wiser for Mary to accept Mrs. Vale's invitation. No kind shelter awaited the orphans, for self-reliance was a hard necessity forced upon them, and it was braver to meet life's snares than to shrink, and shrinking, lose a good home. The elder sister also felt a pardonable pride in the rare beauty before her, so she tried to sooth the sensitive spirit, and wayward, haughty nature. And in truth Mary Carter was gifted with the "fatal gift," for if the mere accident of birth leaves its impress, she as thoroughly illustrated that birth as any of the patrician beauties of the old days of Rome. Light golden waves of hair, that the people love, shaded her low Greek forehead, and beneath her proudly-arched brows shone dark, changeful hazel eyes—eyes that gleam with passion or glance tenderly soft, as a cooing dove; then a lithe, graceful, expressive figure, with a walk even characteristic, and you felt, when you looked upon her, that mere circumstance could not locate her, but that she belonged where she was born—among the daintiest of the land. A woman to be sheltered and cared for, not to struggle and suffer.

Annie's argument prevailed, and on the night of the ball, Mary Carter walked into the brilliant room with Mrs. Vale, and even in that lovely gathering no one was fairer than the young girl standing at Mrs. Vale's side.

Only a simple dress of tulle fell in a cloud mist around her, and a wreath of lilies bound her shining hair. Excitement deepened the color of her cheeks, and her eyes were luminous with the light that only such eyes ever give forth.

"My friend, Miss Carter."

How Mary's heart beat as Mrs. Vale introduced her. The inherited pride was undiminished; and although she felt that her position was honorable, yet she knew that society gave her no status.

But Helmsmuller's lovely music was sounding, and youth, with its keen relish of pleasure, cannot always feel the shackles of circumstances, so Mary forgot her nervous fears, and enjoyed every moment till—well, it was near the close of the evening. The beautiful Faust lancers was echoing, and the third figure, so trying to a woman's grace, was begun. Mary Carter's vis-a-vis was a handsome, showy woman, flashing with diamonds, and, in the intervals of the dance, conversing with a tall, distinguished gentleman, who stood carelessly leaning against a pedestal near by. With the eye of a connoisseur he swept the crowded room, and rested it on the slight figure opposite.

"Saving your fairest self, Mrs. Edelbert, I would determine the young lady facing us the most beautiful in the room. Watch her movements and that graceful courtesy; in that simple inclination is the test of the breeding, which the exquisite features substantiate."

"You are for once mistaken, Mr. Hardinge, for that is only Mrs. Vale's governess."

It was the second forward, the forward when the ladies courtesy, and just when the music sways for the low inclination, and when the cold, hard words fell distinctly, "only Mrs. Vale's governess." For one single instant the young girl faltered—for one second, as she afterwards said, her eyes were blind, her brain reeled. But true to its old source, the haughty blood rose to her rescue, and with a lady's flash, a fleeting look of ineffable scorn, she met Mrs. Edelbert's gaze until the woman quailed, then, as a queen, Mary Carter rose and glided back to her partner.

And John Hardinge saw it all and felt for the young fawn, so cruelly wounded, shrinking, quivering yet with all the spirit of the rampant lion.

The man felt his heart beat quickly, and his pulses thrilled at the insult thus ruthlessly given; so he walked away.

It was Sunday after the party, just at the soft hour when the twilight shadows the day, and on the warm curtains the fire gleams danced in weird fitfulness; the gas was not yet lit, and through the dimness floated the wailing notes of a sweet contralto. What a world of tender pathos in the tones as they appealed:

Flee as a bird to the mountain,
Ye who are weary of sin.

And she sang on, with a low sob in her voice, as though her heart echoed every note of the music. Her face was very pale, and her eyes rested on Raphael's Madonna. The children were very found of Mary Carter, and they were kneeling and leaning near, perfectly calmed by the sweet, sad strain, when noiselessly the heavy curtain parted and Mrs. Vale walked in with her brother, John Hardinge.

"Mary, here is my brother, John Hardinge, of whom you have heard me speak so often; and this, John, is my friend, Miss Carter."

The poor child's thoughts were wandering to Thursday evening, when she had rested upon those very words, with such crushing results; therefore her bow was very cold, and her voice trembled as, a few minutes after, she arose, and, excusing herself, retired from the music room.

The arrow was quivering still, and the poison was absorbing the heart's vitality—its trust in human nature.

A shade of disappointment clouded John Hardinge's face as the last fold of her trailing black dress disappeared behind the heavy curtain, and then he told Mrs. Vale what had happened.

She was a kind, gentle lady, and her heart sorrowed for the desolate young orphan.

Mr. Hardinge often strolled in at the "children's hour," and the little ones were really as lovely as the celebrated group known as Longfellow's childern.

Always in the music room he found Mary; for never since the night of the ball had she appeared in the parlor. Society had only stamped the impress which her own heart had warned her of, and she felt that as a governess she was unrecognizable. And so the buoyant, haughty spirit forced itself into the shackles, and the young heart fed upon its life for food.

But John Hardinge was no longer a young man; therefore he was not easily daunted, nor was he a neophyte to be discouraged by a girl's coldness. The heart that was unimpressed by the sun of forty summers at last felt the trembling of germination, and the realization came with untold strength and power; so the strong man yearned to fold within his protecting care the delicate blossom so tossed by life's storm.

Proud and shrinking, she seldom allowed herself to be talked to; but music was her greatest passion, and she quite forgot her life and position when Mr. Hardinge's pleasant visits came to brighten her winter days.

He was a cultivated, courtly gentleman, whose wealth made him sought after in the great marriage market; and mammas were especially suave and daughters very docile when Mr. Hardinge vouchsafed attention. But men in society weary of routine, and tire of reproduction from the one unvarying and unvaried type, a pretty, expensive doll. They are more often attracted by the species sui generis, afforded without a grand whirl; and so the marriages of such men are disappointing and startling to the expectant battalions.

Madge was the youngest and fairest of the Vale household; a winsome little fairy of six summers; but fever flushed her soft cheeks, and her blue eyes were bright with that dangerous light which makes the heart of mother throb within her bosom, for she feels instinctively that the Reaper is near.

Eight days and nights Mary Carter attended the child, for the faint voice always sounded her name, and the little arms ever sought her breast to nestle on.

But the fiat had gone forth, and Mrs. Vale saw the little one pass from her; saw the violet eyes close on Mary's hymn, and while the low music sounded Mrs. Vale fainted by her dead child.

Then the beautiful strength of the young woman developed, and tender words of comfort called back the mother's faith. A woman's religion is never more lovely than when clouds and shadows darken; then she clings closer to the cross, her "rock of ages," and her words of trust and comfort seem almost inspiration. Mr. Hardinge watched the slight figure as it softly glided to and fro on its errands of love in the house of sorrow.

* * * * * *

The little one had been laid beneath one of the willows of the Trinity Cemetery, andsthe household seemed under a spell—the weight of the first great grief. Mrs. Vale was in her darkened chamber, the children in the nursery, and Mary sat in the low bay window of the library. Her face was very pale, for long watching had exhausted her. Mr. Vale had told her in the morning of his intention of sailing for Europe next month, and had placed a check for a handsome amount in her hands.

This Mary at once returned. There was a flush of the old pride warming her cheek when she wrote the simple lines enclosing the check to Mr. Vale:

I should be false to my name did I receive pay for any service it has only been my pleasure to render. The salary agreed upon is only one-fourth the sum returned. This I shall be gald to receive. MARY CARTER.

And now she was thinking of her future; she felt that she must find another home, though no one could shrink more from intercourse with strangers. There were many Mrs. Edelberts in the great world, and a governess was only considered a person to control and instruct unmanageable children; not a woman with the heart and soul of a woman, but a piece of household furniture, to occupy its own special place, and nothing more.

And so the rough tide surged on, and two burning tears blinded her eyes as these hard realities formed the picture of her life to come.

Her intercourse with Mrs. Vale had always been pleasant, and Mr. Hardinge's visits had become more of an anticipation than she cared to acknowledge. Now fate would drift her away and her very name would be forgotten.

Why had she met these kind people? and why Mr. Hardinge—

"Mary," sounded a well-known voice, and she looked up to meet the very face she had been dreaming of. "I have come to tell you a little story. Have you time to give me a half-hour's patience?"

She could not speak then for her heart was full—full of the sorrow that knows no utterance. He drew up one of the old gothic chairs close to her low seat and commenced:

"A very long time ago, Mary, my father died and left my mother with two little children and not a dollar to support them. We were comparative strangers in New York, and I was then a boy, only fourteen, and still attending a school.

"I shall never forget the dreary November afternoon on which my father's corpse was borne from the house. My mother's grief maddened me, and on my knees beside her, I promised to take care of her.

"I wandered out the next day with a boy's determination, but with a boy's faint heart. In twenty stores I offered myself and was twenty times refused. Work was what I wanted—labor, honest labor, and money for my toil. At last, footsore and pinched with cold, I nerveed myself for my last attempt, and walked into the office of one of our merchant princes.

"There was a gentleman writing at one of the desks who was pointed out to me as the only partner in. He was just finishing a letter, and looked up as I paused I before him.

"My appearance seemed to please him, for I was neatly dressed, and he

spoke with some surprise as he answered my request.

"'You have an honest face, my lad,' he said in conclusion, 'and I will see what can be done for you.'

"The words were few and simple; but I afterward learned that he never promised without fulfillment.

"I saw him next day, and he gave me employment—not only employment, but he saw my mother, and for years, through his kindness, we were saved from want.

"Then a great crash came. My kind friend died, and we heard that his family had left New York.

"Fortune smiled upon me and I became rich; but one sorrow weighed upon my heart, the family of my benefactor had escaped me. What if they were now suffering?

"I came back to New York last autumn, and as soon as I saw you I felt the haunting resemblance to a face that had somewhat crossed me. Your name at once struck the old chord, and I found to my surprise that you were the daughter of Thomas Carter.

"And so, darling, I wish you to help me lighten the debt I own your father.

"I have to-day purchased a lovely home which I wish your taste to furnish, and if you will condescend to be an old man's pet I will promise," he added, smiling, "to submit to the rule of a very wayward woman."

She could not answer him then, for her tears fell rapidly, and the first words that pride urged were, "I am too poor for a rich man's wife."

But he kissed the tears away and told her to consult Annie about it all. And so when the calm, practical sister heard the story, she soothed the little one as on the day preceding the ball. and the quiet, blue eyes looked up in Mr. Hardinge's face as she replied:

"The bread cast upon the waters has returned in many days."

And the house in —— street received its beautiful mistress, and Annie Carter loved to watch her darling dispensing the noble charities which her husband's wealth allowed.

"You are right, Mary," he would always say, for you have taught me how precious is the recompense that returns."

Microbes in Bad Teeth.

The mouth is the starting point and breeding place of germs. Neglect of the teeth in children is the cause of the majority of cases of toothache, sore gums, ulcers, tonsilitis, diphtheria and other throat troubles.

If the teeth are surrounded by accumulations of tartar, defective dentine and soft bone tissue, can it not be understood how quickly the germs of any disease will find resting places there?

All decay of the teeth begins from the outside, hence, if the surfaces were kept absolutely clean, no decay could take place. This is, of course, impossible. Much, however, can be done by attention to hygienic rules.

As soon as teeth make their appearance through the gums they should be cleaned. According to Miller, in his work on the subject, there are six different micro-organisms almost invariably present in the human mouth. They flourish in the soft white deposit of teeth, the mucous deposit upon the teeth and the margins of inflamed gums.

Special care of the mouth is required in patients with decayed teeth, smokers and chewers of tobacco, as also in the case of unconscious or paralyzed persons.

Parasites are always present in the mouth; but when the tissues are weakened, as in a fever patient, they undergo invasion by these parasites, which become then really pathogenic.

When the teeth are decayed, or should there be bleeding of the gums, a pinch of boric acid ma be twice daily rubbed in between the lips and gums.

Cracks on the lips or at the corners of the lips heal quickly if dried with a clean towel and treated with boric acid or vaseline.

After eating always rinse the mouth out with lukewarm water containing a little common salt, with tincture of myrrh or eau de cologne added to stimulate secretion.

A Word to Girls.

Girls in the country sometimes grow tired of the quiet routine of farm work and long for the excitement and attractions of city life. But life in the city is not the public holiday it seems to the girls on their occasional visits to town, states a writer in *Metropolitan and Rural Home*. Believe me when I tell you that working girls in the city have an indefinitely more monotonous existence than the country girls ever dreamed of. You get up early and work hard, it is true, but the picnics you attend in the summer and the rides and parties that enliven your winter give you social recreation and change, while there is always the keenest enjoyment for those who know how to read mother nature's book.

Think of spending every working day in a dingy office, writing and figuring constantly, with but half a day's vacation in three years, as one girl I know of has done! Think of spending all the hot, dusty summer days at a sewing machine in a factory, with the ceaseless clatter of hundreds of other machines all about you! Think of walking two miles to work, standing behind a counter all day, forced to smile and smile, though you feel as a villain ought to feel, and again walking home at night! All these things thousands of girls in big cities do.

One girl I know stands and irons ready-made shirt waists all day, week in and week out. What is the variety of her life? How would you like to exchange your duties with her? Do you think it would be a welcome relief to them to milk in the cool of the morning, churn, bake and sweep before the hottest part of the day, peel the potatoes for dinner out under the shade of a tree, and after dinner is over to sit out in the cool and shady yard, or rest in the hammock, or take a canter on the pony, or in the fall go to the woods in search of nuts, and at night lie down and breath in the sweet-scented air of the country instead of amid sewer smells and effluvia of dirty alleys?

How would you like to pull out your scant earnings for every speckled apple or withered peach you ate? Why, if you live in the city, you would pay for fruit that you would not pick up from the ground now. How would you like the ever-present possibility of losing your place and having your income cut off for a time, with no money to pay expenses that always accumulate so fast? Think of these things before you give up the quiet and peaceful life of the country with the certainty of a comfortable home, even if you do not have ice cream and oysters every day. To make the best of what you have is better than to rush into evils that you know not of.

A Solomon and Hypnotism.

A story is told of a judge who lately had the hypnotic plea raised before him by a burglar. The prisoner claimed that he did not know that he was "burgling;" that he did it automatically and unconsciously, under the direction of a hypnotist.

The judge said he would give him the full benefit of the law, and also of his hypnotic misfortune. He therefore sentenced the man to five years penal servitude, but told him he could, if he chose, send for the hypnotist, and have himself made unconscious for the entire term of his imprisonment.

"The same power," said the judge, "which enabled you to commit burglary and not know it, ought also to enable you to suffer imprisonment with hard labor and not be aware of it. At any rate this is the best I can do for you."—Collier's Weekly.

"How shall I a habit break?"
As you did that habit make;
As you gathered, you must lose,
As you yielded, now refuse.
Thread by thread the strands we twist,
Till they bind us neck and wrist;
Thread by thread the patient hand
Must entwine ere free we stand.

—John Boyle O'Reilly.

DOMESTIC ECONOMY.

Domestic Hints.

Hickory Nut Candy.—Boil two cups of granulated sugar with one-half cup of water, without stirring, until the syrup "threads" in cold water. Flavor with a few drops of lemon or vanilla. As soon as the syrup cools, stir until it becomes white, mix in one cupful of hickory nut meats, and turn into flat tins. When cold, cut into squares.

Cucumber and Onion Salad.—Cucumbers and onions, especially Bermuda onions, make a delicious salad. Slice the cucumbers and onions and lay them in separate bowls of ice water for one hour. Never salt cucumbers if you wish them to be crisp. Drain carefully, arrange in a salad bowl, and at the last moment mix with a French dressing, or with pepper, salt and vinegar. There should be three large cucumbers to one onion.

Eggs with Cheese.—For each person take one slice of bread, one-quarter of a cupful of grated cheese and one egg. For four slices of bread take one-half pint of milk and one egg. Beat the egg enough to mix and add the milk. Dip each slice of bread in the mixture, then lay on a greased dish. Sprinkle over the grated cheese and dust with salt and pepper. Break the eggs separately as if for poaching, then slide one carefully on each slice of bread. Put in a hot oven until the whites are set, then serve.

Eggs Mayonnaise.—Use four hard-boiled eggs and cut them into one-quarter slices, using the ends to chop fine, yoke and white separately. Reserve one yoke and chop its white fineby. Line a low oval dish with young lettuce leaves; put on it the chopped egg, which season lightly with a pinch of salt, and above it the slices of egg, except three. Then put on a layer of young lettuce leaves chopped fine, and pour over the top two tablespoonfuls of white mayonnaise. Put the three slices of egg the length of the oval. On these lay balls made of the reserved yoke of egg, blended with equal volume of peanut flour and the same of grated cheese, moistened enough to use with the juice of a lemon. Form with the hands into the little balls.

Hints to Housekeepers.

To cleanse and stiffen silk, woolen and cotton fabrics use the following recipe: Grate two good-sized potatoes into a pint of clear, clean, soft water. Strain through a coarse sieve into a gallon of water and let the liquid settle. Pour the starchy fluid from the sediment, rub the articles gently in the liquid, rinse them thoroughly in clear water, and then dry and press.

If one chances to have on some upper shelf or in the attic a large bell-glass once used to cover a clock or ornament, it will be found most useful to keep table ferns fresh. If the ferns are thoroughly sprayed once a week, and the earth about them moistened every other day, they will need no other care all winter, provided the glass bell is inverted over them at night.

Various fillings are used for rolled flank steak. A very good one consists of one-half of a cupful of bread crumbs, one teaspoonful of chopped onion, one-third of a teaspoonful of salt, a dash of cayenne, and teaspoonful of chopped parsley and one tablespoonful of melted suet. This is mixed and spread on the steak before it is rolled, it is tied in three or four places and cooked slowly, basting often.

Few housekeepers know what a good dish for luncheon is made by escalloping potatoes with Parmesan cheese. The bottom of a baking dish is covered with sliced boiled potatoes, then pepper and salt are added, and a very little white sauce. A liberal amount of cheese is scattered over, and then another layer of potatoes. The cheese should form the top layer, and the whole should have a thorough cooking, the cheese browning well at the last.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 15, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	68⅜@68⅛	72¾@72⅜
Thursday	67¾@68¼	71⅝@72⅛
Friday	67¾@67⅝	71⅛@71⅛
Saturday	67⅝@67⅛	71⅜@71
Monday	66⅝@67⅛	70⅛@71⅛
Tuesday	66⅛@67⅛	70¼@71⅛

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	5s 10½d	6s 0¾d
Thursday	5s 10½d	5s 11¾d
Friday	5s 9½d	5s 11 d
Saturday	5s 9½d	5s 11¼d
Monday	5s 9 d	5s 10¾d
Tuesday	5s 8½d	5s 10½d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 05⅞@1 06¼	1 13 @1 13½
Friday	1 05¼@1 04½	1 12½@1 12
Saturday	1 04½@1 04¼	1 12 @1 11⅝
Monday	1 03¾@1 02⅞	1 10⅞@1 09¾
Tuesday	1 02¼@1 03⅛	1 09¾@1 10¾
Wednesday	1 02⅛@1 02¾	1 09½@1 10⅛

Wheat.

The wheat market since last issue has been going from bad to worse. With very little foreign buying and local demand slow, the bear interest had matters very much its own way in hammering down prices. That the market will steadily continue on the down grade is altogether unlikely, but for the time being the absence of firmness is a pronounced feature. Chicago declined within the week 2@2¼c per bushel. In Liverpool futures there was a broak of 2¾d, equivalent to 5½c per cental. In the local market there was a quotable decline of 25@50c per ton for spot wheat, while on Call Board December wheat showed a depreciation of about 4c, and prices for May option were reduced fully 3½c per cental. At this writing (Wednesday noon), with rainy weather and weak Eastern and foreign markets, local values are close to lowest figures current since last review.

Despite continued dullness and depression in the wheat trade, some publications are steadily proclaiming that wheat is in a strong position and that values are likely to make rapid strides upward almost any day. This story, with slightly different variations, has been paraded before the public for weeks, with wheat values all the time on the down grade and the general conditions of the market growing worse instead of better. Whether the writers in question are endeavoring, regardless of consequences, to tickle the farmer, or are unwittingly following the lead of the option brokers who are invariably hulling the market outwardly, or on paper, while inwardly or in reality they are bears, selling or shorting the market against their clients who are buying or in Call Board parlance are "going long," this method of persisting in making a bull showing, no matter what the actual state of affairs, is certainly not to be commended, such reports being wholly unworthy the attention or confidence of those whom these fakirs pretend to be catering to. The method is on a par with the scheming resorted to for many years past to rob the gullible public by foisting on them mining and other stocks at fictitious values. The outcome of this latter style of business is too well known by the numerous victims to be found everywhere throughout the United States and also in foreign lands to need more than passing mention. The PACIFIC RURAL PRESS aims to give its readers the exact condition of the markets, taking special pains to represent the interests of the producer, and if the reports of this paper err in any direction, it is in trying to make the best showing possible for the grower, but we should consider ourselves false to our trust if we should insist on terming the market strong when the reverse was too apparent to be questioned by any one familiar with the actual facts. At the beginning of the season the anticipation of a brighter state of affairs than exists was warranted, but leading factors have since then greatly changed. A continued drawback has been the inadequate transportation facilities and high freight rates which producers have had to contend against, causing steady accumulations in the visible supply. Further, the crop prospects for coming season are unusually bright for this early date. What have a still greater bearing on the situation are, first, the continued free shipments of wheat from the Argentine section, where stocks were reported months ago as almost exhausted, and, second, the heavy exports from Russia, where it was announced at opening of the season there would be little more than enough for home requirements. In the case of Argentina and Russia, it looks very much as though there had been willful misrepresentation. Developments later on may cause a better feeling and improved values, and it is not likely that the market will be wholly without encouraging feature for the grower throughout the entire season, but the immediate future of the wheat market certainly does not look bright.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.06¼@1.02⅛.

May, 1900, delivery, $1.13¼@1.09⅛.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.02⅛@1.02¾; May, 1900, $1.09⅛@1.10⅛.

California Milling	$1 02½@1 07½
Cal. No. 1 shipping, alongside	1 01¼@1 02½
Oregon Valley	1 00 @1 07½
Walla Walla Blue Stem	1 00 @1 07½
Walla Walla Club	1 00 @1 05
Off qualities wheat	95 @1 00

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s10d@—s—d	6s1d@6s1½d
Freight rates	25@27½s	32½@35s
Local market	$1.20@1.22½	$1.01¼@1.05

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

This market has continued on practically the same lines as noted in last review. There is no active trading, either for shipment or on local account, few buyers caring to purchase ahead of most immediate requirements. While quotable rates remain unchanged, sales at full current figures are the exception.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

There is no particular firmness observable to the market for this cereal, at the same time high grade barley is not obtainable in noteworthy quantity at materially lower figures than have been current for some time past. Two cargoes of barley were cleared from this port since last review, the French bark MacMahon taking 3,395 tons, valued at $63,765, and the French bark Sainte Anne taking 2,116 tons, with a clearance valuation of $44,453, the barley being destined for the United Kingdom. Another ship, with 3,200 tons barley, is about ready to sail for Europe. This swells the total shipments for the season to 119,500 tons, being over 2,000 tons ahead of the heavy outward movement for corresponding period in the cereal year of 1897-'98. This season's exports would have been materially heavier, had the barley been readily obtainable and had ships been in good supply. Producers having high grade barley have been faring better than wheat growers, not only the present season, but this has probably proven to be the case on an average for the past eight or ten years. Shippers are still in the market for this cereal, but stocks of desirable qualities are now rather small, and it is difficult to make up cargoes. Common qualities are being freely offered, with market for this sort weak and demand slow. In the speculative market there has been so little trading the past few weeks that Call Board values have been very poorly defined. It is understood that December contracts are out in considerable quantity, one operator holding the long end of the bulk of them.

Feed, No. 1 to choice	82½@ 85
Feed, fair to good	75 @ 80
Brewing, No. 1 to choice	90 @ 97½
Chevalier, No. 1 to choice	1 05 @1 10
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 85⅜@82¼c.

December, 1899, delivery, 83¼@83c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 83@83¼c; seller 1899, new, ——c.

Oats.

Arrivals and offerings of this cereal have been of fair volume the current week, but the proportion of offerings of choice to select, either of white or colored oats, continued light. Market for best qualities inclined in favor of the selling interest, and for desirable lots for seed was especially firm, such oats being salable to advantage and commanding in a small way higher rates than were quotable. The local demand for feed is being supplied mainly out of stocks of rain-damaged or foul oats, such being offered rather freely and at comparatively low figures. Red oats have been growing greatly in favor with dealers and consumers during the past few months. Early in the season Reds were dragging at lower prices than were current on other kinds, while now choice Reds are commanding close to the highest figures realized for best Whites.

White Oats, fancy feed	1 25 @ —
White, good to choice	1 15 @1 22½
White, poor to fair	1 07½@1 12½
Gray, common to choice	1 10 @1 20
Milling	1 15 @1 25
Surprise, good to choice	— @ —
Black Russian	95 @1 07½
Red	95 @1 20

Corn.

Stocks have been so slim during most of the week that values were necessarily largely nominal, and quotations represented little other than asking figures on small lots in second hands. There will likely be a change before long, however, as there is every prospect of Eastern product soon being in good supply, and moderate offerings of new crop California corn are looked for in the near future. The Eastern crop this year is large. With wholesale offerings for buyers to select from, an easier market will be the natural sequence.

Large White, good to choice	1 10 @1 12½
Large Yellow	1 10 @1 12½
Small Yellow	1 42½@1 45
Eastern Mixed	1 00 @1 02½

Rye.

Not much coming forward from any quarter, neither is the inquiry very active, but there is sufficient demand to prevent values from sagging to any appreciable degree.

Good to choice, new	1 02½@1 05

Buckwheat.

Recent arrivals have relieved the market considerably, giving leading local millers enough for the time being, and the market is lower than last quoted, but is not likely to develop very much weakness in the near future.

Good to choice	2 00 @2 10
Silverskin	— @ —

Beans.

For choice to select qualities the market shows no weakness, the tendency on best stock being, in fact, to firmer rather than to easier figures, owing to damage to a portion of the crop by recent rains. Some beans are coming forward in soft and stained condition, and such are more difficult to move at lowest quotations than are clean, bright and dry beans at outside figures. While there is no very great activity, there is enough doing to relieve the market of any semblance of dullness. Business being affected is on Eastern as well as local account, the latter partly speculative. The trade with the East is confined mainly to Lady Washingtons or Large and Small White, Pea beans and Limas. For Arizona, Texas and adjacent territory, which draw their supplies largely from this point, colored beans are mostly used, and the extreme North also takes considerable stock of this latter sort. All kinds in evidence, both white and colored, have been lately receiving a fair share of attention. Pinks and Bayos have had considerable call this week at advanced figures.

Pea, fair to good, 100 lbs	2 75 @3 00
Small White, good to choice	2 75 @3 00
Lady Washington	2 25 @2 40
Butter, small	3 75 @4 00
Butter, large	— @—
Pinks	2 50 @2 75
Bayos, good to choice	2 75 @3 00
Reds	3 75 @4 00
Red Kidneys	3 00 @3 50
Limas, good to choice	4 85 @5 00
Black-eye Beans	4 50 @4 75
Horse Beans	— @—
Garbanzos, large	2 50 @2 75
Garbanzos, small	2 00 @2 25

Recent advices by mail from New York furnish the following report of the bean market, prices quoted being per 60-lb. bushel:

There has been a very indifferent demand for Marrow all the week and the dullness has caused an unsettled and rather easy feeling. The new crop beans have been especially neglected; they are of such small size that both shippers and home buyers object to them, and there will be practically no sale for them until the old stock is gone. For average best lots of new $2.10 would be accepted, and probably a half dozen carloads could be bought at that. Choice old Marrow held generally at $2.15, but hard to move even in a jobbing way. The supply of Medium is light and there have been jobbing sales of choice quality at $1.80. Pea have claimed most attention of the trade. When the price fell to $1.60 last week it brought out longer buying interest, and with firmer advices from all interior shipping points there was a quick recovery to $1.65, then to $1.70, and at the close $1.75 is asked for bags, with a little business at that. Barrels have kept a little in the lead of bags, say from 2½@5c. Only small export orders for Red Kidney have come to hand this week, which caused some pressure to sell and a cut in the price to $2.40 for choice new, the market closing weak; other grades of both new and old have an uncertain value. White Kidney scarce and firm. Yellow Eye have had sales at $2.00, but a little more is generally asked. Turtle Soup very quite. Lima selling slowly and feeling weak; only small jobbing sales at outside figure; quotable at $3.30@3.35. Both green and Scotch peas have further declined and close easy.

Dried Peas.

The firm feeling previously noted for both Green and Niles varieties continues to prevail. Not many of either sort are coming forward, and buyers are eager to secure choice lots at full current figures.

Green Peas, California	2 00 @2 10
Niles Peas	1 75 @ —

Wool.

Most of the season's clip of the coast has passed out of first hands, and a large quantity has been transferred to Eastern dealers and manufacturers, more of the recent transfers being to speculative operators than to manufacturers, as the former outbid the latter in many instances, paying higher prices than the manufacturer thought was warranted by immediate conditions. The market is strong, however, and prospects are that there will be opportunity before the coming season's clip becomes available to close out speculative holdings at a moderate advance on present cost. Not only is it out of the question to lay down foreign wools at figures now current on domestic, but stocks of American wools were greatly reduced early in the season by heavy shipments to Europe. Present prospects are that the coming clip of this State will be of superior quality to that of the current year, and there is reason to anticipate an active demand during the Spring of 1900 at good prices. Not for many years has there been at corresponding date such a close clean up of stocks. The change for the better in the wool industry during the past twelve months has certainly been pronounced.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	14 @15
Middle Counties	8 @10
Northern, free	9½@11½
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

The general condition of this market is without improvement. Some dealers who have more contract hops on their hands than they care for, are endeavoring to make it appear that business is fairly active and that the market is firm. The effort to make this impression is evidently with the hope of keeping growers out of the market for the time being, so as to enable the holders of these contract hops to dispose of them to the best advantage existing conditions will admit of. There are no evidences of many foreign orders on the market, and with large consignments being made abroad in the face of a heavy foreign crop, there is little or no likelihood of much buying being done in the home market on foreign account, unless in a speculative way at materially lower prices than are now nominally current in the wholesale market.

Good to choice, 1899 crop	8 @11

The following review of the hop market, coming through by recent mail, is from a New York authority:

Shippers have shown a little interest this week and have bought several hundred bales in the interior of this State, for which they paid 12@13c generally, in a few cases a fraction more for special lots. As we have often before remarked, the chances for selections this year were very limited, and that becomes more evident as the season advances. Brewers are doing some business, but are not very active buyers; a good many have covered their needs by early contracts and others are feeling their way cautiously. But while the movement here is quite moderate the relatively small proportion of strictly high grade hops makes a firmer holding of such and we advance quotations slightly. For the great bulk of the stock there is a slow, indifferent trade, and values are weak and uncertain. Very little business in yearlings, and olds are neglected and nominal. Advices from the Pacific coast indicate rather light buying for this season of year. The preliminary statement of the English Board of Agricultural place the English crop at 661,426 cwts., which is a very large quantity; but it is also stated that a considerable portion is very poor, and the quality question may bring here some buyers for our best grades.

Hay and Straw.

Owing to rainy weather during a portion of the week, business in this line has been greatly restricted much of the time since last review. While quotable rates for choice hay remain as last noted, the market is hardly so firm as in the early part of the month. The recent liberal rains, giving assurance of plenty of green feed, as well as prospects for an abundance of hay the coming summer, cause the market to be less promising, even for best qualities, than many had hoped for a few weeks ago. There is no doubt there will be an abundance of hay for all probable requirements during the balance of the season, although much of that which remained exposed during the last rains is now practically worthless. Straw was in light receipt and market tended slightly in favor of sellers.

Wheat	7 00@10 50
Wheat and Oat	7 00@10 00
Oat	6 50@ 9 50
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	—@—
Compressed	7 00@ 9 00
Straw, ₱ bale	25@ 40

Millstuffs.

The tendency of the market for Bran and Middlings was to easier figures, owing to prospects of green feed being soon plentiful, but as there were no heavy receipts, quotable values showed little change. Rolled Barley was more readily bought than sold at full current rates. Cracked Corn was in limited stock and firmly held.

Bran, ₱ ton	16 50@17 50
Middlings	18 00@20 00
Shorts, Oregon	17 00@18 50
Barley, Rolled	17 50@18 00
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

Stocks of Mustard Seed have been reduced to such light proportion that trading is now principally confined to the filling of small orders. Market is firm at the quotations. Flaxseed was in rather heavy receipt, going mainly under contract to the oil mills. Alfalfa Seed continues to be offered sparingly, with market against buyers.

	Per ctl.
Mustard, Trieste	3 25@3 50
Mustard, Yellow	4 25@4 50
Flax	2 00@2 25
	Per lb.
Canary	3½@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	8½@9

Bags and Bagging.

The Grain Bag market is lifeless, as is generally the case at this time of year. There is no talk so far regarding contracting on next season's account. Market for Wool Sacks, Gunnies and Bean Bags is steady at the quotations. Market for Fruit Sacks is firm at last quoted advance.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¼
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@28
Gunnies	—@12½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	6¼@ 7

Hides, Pelts and Tallow.

Tendency of prices on Hides is to a slightly higher range of values than lately current, despite the poorer average quality of the winter skins which will be soon coming forward. Pelts are in fair request at quotably unchanged rates. Tallow was in only limited demand and market was not strong at the quotations.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11 @11½	10 @10½
Medium Steers, 48 to 56 lbs	10 @10½	9 @ 9½
Light Steers, under 48 lbs	9½@10	9 @—
Heavy Cow Hides, over 50 lbs	9½@10	9 @—
Light Cow Hides, under 50 lbs	9½@10	9 @—
Wet Salted Kip	9½@10	9 @—
Wet Salted Veal	9½@10	9 @—
Wet Salted Calf	10 @10½	9½@10
Dry Hides	17 @—	13 @—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13 @—
Dry Calf, under 4 lbs	18 @—	15 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	90 @1 25	
Pelts, medium, per skin	60 @ 75	
Pelts, short wool, per skin	30 @ 50	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	

Deer Skins, good medium	20	@	22½
Deer Skins, thin winter	—	@	10
Elk Hides	10	@	12
Tallow, good quality	4½	@	5
Tallow, No. 2	4	@	4½
Goat Skins, perfect	30	@	37½
Goat Skins, damaged	10	@	20
Kid Skins	5	@	10

Honey.

Stocks are of small volume, both here and in the interior, and are mostly in second hands. While the demand is not brisk, when buyers do put in an appearance they find it necessary as a rule to pay full current rates.

Extracted, White Liquid	7½	@	8
Extracted, Light Amber	7	@	7½
Extracted, Amber	5	@	5½
White Comb, 1-lb frames	11½	@	12½
Amber Comb	8	@	10

Beeswax.

There is a fair demand, both for shipment and on local account, with light offerings. Values are being well sustained.

Good to choice, light, ℔ lb	26	@	27
Dark	24	@	25

Live Stock and Meats.

Beef remains quotahly unchanged, although less trouble is being experienced than recently in getting prompt deliveries of cattle from Nevada. Values for Veal remained as before, but market was not firm at full figures. Mutton brought fairly steady prices, with demand ahout equal to the supply. Lamb was not in excessive receipt. Hogs hrought slightly firmer figures than previous week, with offerings quite moderate, hut demand was limited at full current rates.

Beef, 1st quality, dressed, net ℔ lb	7	@	7½
Beef, 2d quality	6½	@	7
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wethers	6½	@	7
Hogs, bard grain fed, medium	5⅝	@	5⅝
Hogs, small, fat	5⅜	@	5½
Hogs, large bard	5⅛	@	5¼
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ℔ lb	7	@	9
Veal, large, ℔ lb	8	@	—
Lamb, spring, ℔ lb	8	@	8½

Poultry.

Immediately following last review, under decreased arrivals of hoth domestic and Eastern, the market presented a decidedly hetter tone and improved prices were realized for most kinds, particularly young Chickens and Turkeys. The future of the market is uncertain. Much will depend on the quantity of Eastern imported. Prospects are favorahle for Turkeys hringing good prices on account of Thanksgiving, as there are few expected from the East and the quantity in this State is not large. Oregon is being looked to as the principal source of supply.

Turkeys, Dressed, ℔ lb	16	@	18
Turkeys, live young, ℔ lb	15	@	16
Turkeys, live hens, ℔ lb	14	@	15
Turkeys, live gobblers	14	@	15
Hens, Cal., ℔ doz	4 50	@	5 50
Roosters, old	4 00	@	5 00
Roosters, young, (full-grown)	4 50	@	5 00
Fryers	3 50	@	4 00
Broilers, large	3 00	@	3 25
Broilers, small	3 25	@	3 50
Ducks, ℔ doz	4 00	@	6 00
Geese, ℔ pair	1 50	@	1 75
Goslings, ℔ pair	1 50	@	1 75
Pigeons, Old, ℔ doz	1 12½	@	1 25
Pigeons, Young	1 75	@	2 00

Butter.

Further weakness was developed in the market for fresh butter, not so much due to large supplies of fresh as to slow demand, most retailers and consumers running largely on packed. As soon as the trade is again wholly on fresh product, the market will show more steadiness and there will possibly he some recovery in values for hest qualities. At the close fresh product was receiving more attention.

Creamery extras, ℔ lb	26	@	—
Creamery firsts	24½	@	25½
Creamery seconds	24	@	—
Dairy select	24	@	24½
Dairy seconds	20	@	22½
Dairy, soft and weedy	—	@	—
Mixed store	14	@	16
Creamery in tubs	18	@	22
Pickled Roll	23	@	25
Firkin, Cal., choice to select	19	@	22½
Firkin, common to fair	16	@	18

Cheese.

Values remain at practically same range as last quoted. Stocks are not large, and there is no undue selling pressure. Market is particularly firm for choice to select new of mild flavor, sales of this description heing made in a small way at an advance on quotable rates. Held cheese are not in excessive stook and are mainly in first hands.

California fancy flat, new	12	@	—
California, good to choice	10½	@	11½
California, fair to good	10	@	11
California Cheddar	—	@	—
California, "Young Americas"	10½	@	12½

Eggs.

A few eggs which are in every way suited to the most fastidious trade, being uniformly fresh, large, white and clean, command comparatively stiff prices, with sales noted up to 42c. per doz., but such stock is in too light supply to be quotable in a regular way. On the other hand. fresh Eastern have heen selling down to 22c., and cold-storage eggs, principally Eastern product, are offering at 17@20c., as to quantity and quality, with only slow movement at these prices.

California, select, large white and fresh	40	@	—
California, select, irregular color & size	33	@	38
California, good to choice store	28	@	32
Eastern, as to section and grading	20	@	27
Eastern, cold storage	17	@	20

Vegetables.

While the display is not heavy, it is of fair proportions, considering the time of year. Peas and String Beans are still coming forward from near-hy gardens. Tomatoes are in reduced stock and are bringing improved figures. Onions of choice quality are not plentiful; market for hard and sound is firm at quotations noted.

Beans, String, ℔ lb	5	@	6
Beans, Lima, ℔ lb	4	@	6
Cabbage, choice garden, ℔ 100	50	@	60
Cauliflower, ℔ doz	50	@	—
Cucumbers, Alameda, ℔ large box	40	@	65
Egg Plant, ℔ box	40	@	65
Garlic, new, ℔ lb	3½	@	5
Musbrooms, Buttons, ℔ lb	15	@	—
Mushrooms, wild, ℔ box	5	@	10
Okra, Green, ℔ box	1 00	@	1 25
Onions, Yellow, good to choice, cental	65	@	85
Peas, Sweet, Garden, ℔ lb	5	@	6
Peppers, Green Chile, ℔ box	35	@	60
Peppers, Bell, ℔ large box	50	@	85
Squash, Marrowfat, ℔ ton	8 00	@	12 00
Squash, Summer, ℔ box	75	@	1 00
Tomatoes, River, ℔ box	25	@	50
Tomatoes, Bay, ℔ box	40	@	70

Potatoes.

There was a falling off in receipts from Sacramento river sectlon during a portion of the week, rainy weather interfering with digging. Choice River potatoes commanded an advance, but common qualities were withcut quotahle improvement. Oregon and Humholdt potatoes are coming forward in moderate quantity, hut it is the exception where the quality is choice. Common stock from the North is meeting with a poor market. Sweets were in good supply and were ohtainahle at quite reasonable figures.

Burbanks, River, ℔ cental	55	@	75
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	70	@	1 10
Burbanks, Oregon	60	@	1 10
River Reds	50	@	65
Burbanks, Salinas, ℔ cental	1 00	@	1 25
Sweet River, ℔ cental	75	@	1 00
Sweet Merced	85	@	1 10

The Fruit Market.

Fresh Fruits.

In the line of deciduous fruits, Apples make the leading display, which is natural at this time of year. Although there are fairly liberal quantities of this fruit on market, the proportion of strictly choice to select qualities is decidedly small. For latter sort the market is quite firm. A few extra fancy Ben Davis from Oregon hrought $1.50@1.75 per hox, the latter figure being for three tiers to the hox, the apple heing not only extra large, but in every respect of very superior quality. Most of the wholesale trade in Apples, however, is within range of 75c@$1.25, many of good to fairly choice quality going at 75c@$1 per regular size hox. Common qualities range down to 35c per hox, and trashy stock will not command this figure. Pears make a fair display for this date. Choice Winter Nelis sell up to $1.25 per hox to the trade, and in a small way command a little more money. Cooking pears do not move very hriskly and sell mainly within range of 50@75c. Persimmons now offering are mostly ripe and on this account are receiving a little more attention than earlier in the season, hut prices are fully as favorahle to buyers as previously noted. Pomegranates are held at practically unchanged rates, hut do not meet with much custom. A few late Plums are still on market, their lateness heing their chief virtue. Raspberries are still to he seen in limited quantity, hut they do not command any hetter figures than for weeks past. Strawberries were in reduced supply and most offerings were more or less muddy; good to choice hrought an advance on last quoted figures. Oregon Cranberries are offering at $1.50@2 per bushel hox, as to quality, with the range on Eastern product $7@10 per barrel, the latter figure being for choice Cape Cod of most recent importation.

Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ℔ 50-lb. box	75	@	90
Apples, Green, common to fair, ℔ 50-lb. box	35	@	60
Grapes, Black, ℔ crate	50	@	75
Grapes, Muscat, ℔ crate	50	@	75
Grapes, Tokay, ℔ box, 40@65c; ℔ crate	50	@	75
Grapes, Cornichon, ℔ crate	60	@	85
Pears, Winter Nelis, ℔ box	75	@	1 25
Pears, cooking varieties, ℔ box	50	@	75
Persimmons, ℔ box	65	@	1 00
Plums, ℔ box	60	@	75
Pomegranates, ℔ box	50	@	75
Quinces, ℔ box	50	@	85
Raspberries, ℔ chest	5 00	@	7 00
Strawberries, Large, ℔ chest	4 00	@	6 00
Whortleberries, ℔ lb	5	@	7

Dried Fruits.

A quiet market has been experienced since last review for most descriptions of cured and evaporated fruits, the inactivity heing partly attrihutahle to light offerings of such sorts as buyers are most anxious to secure, and partly due to Eastern dealers heing fairly stocked for the time being through the active purchasing of a few weeks ago, and preferring to reduce present holdings before attempting to stock up further to any noteworthy extent. Market for Evaporated Apples remains strong, especially for high-grade fruit, at the advance quoted last week, with offerings light and holders refusing to sell under full current rates. Some packers are asking quarter to half a cent ahove quotations. Peaches are being steadily held, and it is doubtful if there are now more than 100 carloads in the entire State, outside the hands of local johhers, hut to crowd Unpeeled Peaches on the market at present, unless exceptionally choice, concessions would have to he granted buyers to effect transfers. Johbers may he more anxious to purchase later on, as it is a long time till next crop. Peeled Peaches are in such slim supply as to he hardly quotable. Apricots are ohtainable only in small quantities and bid fair to be soon wholly out of stock. Pears make a very light showing and are being as a rule firmly held. Pitted Plums are in very moderate supply, hut dealers as a rule are not anxious to increase their holdings materially at full current rates. Quotahle values for Figs are without appreciable change, but for other than most select the market is not strong, the movement heing light. Prune market continues weak for the medium and large sizes, values remaining at last quoted decline. Small sizes are too scarce to he ohtainable in a wholesale way. There is some movement, Eastward and to Europe, and good prospects of increased demand hefore the winter ends, hut the market at present is not brisk.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12½
Apricots, Royal, fancy	12½	@	13½
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½	@	8
Apples, 50-lb. boxes, rings, pressed, good to choice	7	@	7½
Figs, White, fancy pressed	8½	@	9½
Peaches, unpeeled, good to choice	5½	@	6½
Peaches, unpeeled, fancy	7½	@	8½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½	@	8½
Plums, Black, pitted	6½	@	7
Plums, White and Red, pitted	7½	@	8
Prunes, in sacks, 40—50's	4	@	4½
50—60's	3½	@	3¾
60—70's	3¼	@	3½
70—80's	3	@	3¼
80—90's	2½	@	2¾
90—100's	2	@	2½
110—130's	—	@	—

Prunes in boxes, ¼c bigher for 25-lb boxes, ¼c bigher for 50-lb boxes.

4 sizes Santa Claras and equal	2¾	@	3
4 sizes San Joaquin and Northern	2¼	@	2½
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4½	@	5½
Apples, quartered	4½	@	5½
Figs, Black	6	@	6½
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Mail advices of late date from New York contain the following report of the dried fruit market in the East:

Receipts this week have included a large quantity of California fruit much of which has been in transit for export. One day alone there were 18,702 pkgs. reported in arrivals which simply passed through for foreign ports. The demand for evaporated apples has been light, and with more pressure to realize, especially by interior holders, market has steadily weakened with prices showing a decline of almost ½c on prime. At the close prime are more easily bought than sold at 7½c though some holders are unwilling to accept that figure, and choice range from 7¾@8¼c with fancy, which are scarce, bringing 8½@9c and even more in instances. Sun-dried apples in light supply and firm, but chops and waste both rule weaker, with outside quotations rather extreme. Small fruits continue in limited supply, and with stock in few hands, and well under control, prices have been forced still higher. There has been very little speculative demand for California fruits this week but market has held steady under a fair jobbing trade, with prices showing no material change.

Apricots, Cal. Moorpark, 1899, per lb	15	@	17½
Apricots, Cal. Royal, 1899, per lb	13	@	14
Peaches, Cal., 1899, unpeeled, in boxs. lb.	8½	@	9½
Peaches, Cal., 1899, unpeeled, in bags, lb.	8	@	9
Prunes, Cal., 1899, per lb	3½	@	7½

Raisins.

Stocks are light and market is very firm for standards, with deliveries slow. Orders are now being booked for Pacifics and Orientals, or second and third grades of loose Muscatel. Prices for Pacifics are ¼c under Standards for all hut 4-crowns, which are ½c lower. Orientals are ½c under Pacifics, hut do not include Seedless.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ℔ box	$3	00	@—
Do do 5-crown, ℔ box	2	50	@—
Do do 4-crown, ℔ box	2	00	@—
Do do 3 crown, ℔ box	1	60	@—
Do do 2-crown, ℔ box	1	50	@—
Valencia layers, ℔ 20-lb box	80	@	1 00

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, seedless	5	@	—

Pacifics.—2-crown loose Muscatel, 5¼c; 3-crown, 6c; 4-crown, 6½c; seedless, 4¾c.

Orientals.—2-crown loose Muscatel, 4¾c; 3-crown, 5½c; 4-crown, 6c.

(Above prices for loose raisins are for 50-lb boxes.)

Dried Grapes — @ —

Thompson Seedless.—Bleached fancy, ℔ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ℔ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ℔ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ℔ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Orange market is very fairly supplied for this early date, and the quality is improving, but it is still the exception when the fruit is sufficiently ripe to he wholly acceptable in this regard. Quotations have been reduced about 50c per box, and market is not firm at the decline. Lemon market continues to drag at low figures, with stocks heavy. Limes are in fairly liheral supply and as cheap as last quoted.

Oranges—Navels, ℔ box	2 50	@	4 00
Cal. Seedlings	1 75	@	2 75
Cal. Tangerine, ℔ box	1 25	@	1 75
Grape fruit, ℔ box	2 00	@	4 00
Lemons—Cal., select, ℔ box	3 00	@	—
Cal., good to choice	2 00	@	2 50
Cal., common to fair	75	@	1 50
Limes—Mexican, ℔ box	4 00	@	4 50
Cal., small box	75	@	1 25

Nuts.

Almonds are in very light stock, but as the wholesale trade on account of the midwinter holidays is nearly ended, dealers are slow to purchase at this late date at full current rates. Walnuts have heen mostly placed, and custom could he secured at current figures for more than are offering. Values for Peanuts are being well maintained, with supplies of very limited volume.

California Almonds, sbelled	22½	@	26
California Almonds, paper shell, ℔ lb	12	@	14
California Almonds, soft shell	10	@	12
California Almonds, hard shell	7½	@	8
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	11	@	11½
Walnuts White, Cal., standard	9½	@	10½
Chestnuts, Cal. Italian	10	@	12½
Peanuts, Cal., fair to prime	4½	@	5½
Peanuts, Eastern band-picked	6	@	7½
Pine Nuts	5	@	7

Wine.

The wholesale market shows no life, and is not apt to until January or February, when trading may be looked for in new wine. For dry wines one to three years old quotable values remain 15@20c per gallon, San Francisco delivery. This year's crop of dry wines is estimated at 10,000,000 gallons, apportioned as follows: Sonoma county, 4,000,000; Santa Clara, 3,000,000 (indicating a gain of 1,000,000 gallons over 1898); Alameda, 1,500,000; Napa, 1,000,000; Contra Costa county, 500,000. The yield of sweet wines is estimated at not to exceed 6,000,000 gallons, as against 7,500,000 gallons in 1898. The decrease is accounted for by the vineyards heing hadly frost bitten last spring, and hy high prices current for raisins, the latter cutting down the supply for wine in the Fresno district and in southern California. The shortage in the gallonage of sweet wines is in sherries, ports and angelicas. The quantity of Muscats turned into wine was fully up to that of previous year.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, ohtainahle on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on ahove dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possihie the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition hetween buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to he sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	92,749	1,982,270	1,810,772
Wheat, ctls	188,348	1,571,375	1,217,996
Barley, ctls	83,390	3,035,300	636,358
Oats, ctls	34,055	388,009	379,430
Corn ctls	775	44,970	71,705
Rye, ctls	2,220	76,587	13,715
Beans, sks	30,229	216,367	210,284
Potatoes, sks	42,324	473,859	446,335
Onions, sks	4,247	91,926	91,531
Hay, tons	3,346	77,451	70,299
Wool, bales	2,252	31,197	25,305
Hops, bales	418	5,715	8,541

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	62,004	1,146,279	1,123,916
Wheat, ctls	193,638	1,243,508	581,656
Barley, ctls	149,828	2,277,676	169,513
Oats, ctls	980	19,655	11,044
Corn, ctls	558	6,583	7,772
Beans, sks	898	9,352	60,135
Hay, bales	2,548	41,146	25,628
Wool, lbs	769,523	2,030,570	913,103
Hops, lbs	11,344	442,816	708,868
Honey, cases	15	2,439	3,977
Potatoes, pkgs	4,880	26,745	20,795

California Dried Fruit at New York.

NEW YORK, Nov. 15.—California dried fruits; Market quiet and steady. Evaporated apples, common, 6@7c; prime wire tray, 7¾@80: choice, 8¼@8½c; fancy, 8½@9c.

Prunes, 3½@8½c.

Apricots, Royal, 13@15c; Moorpark, 15@18c.

Peaches, unpeeled, 7½@10c; peeled, 20@22c.

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Interstate Water-Right Complications.

The study of the irrigation question by the Office of Experiment Stations of the U. S. Department of Agriculture is now being pursued by the collation and publication of information regarding the actual status of irrigation in the arid regions as regards laws, institutions, etc.

Since few of the important streams used for irrigation lie wholly within the limits of any one State, and there is a great diversity of irrigation laws in different States, interstate complications over water rights have been frequent and must become more and more acute as the demand for water increases, unless some mode of settlement is devised. The Department's inquiry into these questions have been inaugurated by a study of the Bear River valley. The Bear river was chosen for this purpose because in its course of a little over 300 miles it crosses State lines (Wyoming, Idaho and Utah) five times, finally emptying into Salt Lake, which is less than fifty miles distant from its source, thus presenting in small compass a great variety of interstate problems and offering exceptional opportunities for their study. The results of this study are embodied in Bulletin No. 70 of the office of Experiment Stations, entitled "Water-Right Problems of Bear River," just issued by the U. S. Department of Agriculture.

The bulletin says that within 100 miles of its course the Bear river manages to cross the western and southern boundaries of Wyoming four times. In its entire course these boundary crossings divide the stream into six sections. Ditches heading in each of these sections are practically independent of irrigation laws or the superior claims of appropriators of water below.

Beginning at the head it crosses the Wyoming-Utah line nine miles east of the southwest corner of Wyoming. Just below the State line a proposed ditch is to return the water to Utah, through the canal of Yellow creek. Ditches taken out south of the Wyoming border pay no attention to prior rights north of it. Their head gates stay open, even if the head gates of earlier ditches front on a dry channel. For the next thirty-eight miles Wyoming irrigators have control of the river, after which it deserts them by returning to Utah. The bend on the western side of the boundary is twenty-two miles long, in which Utah head gates are numerous. The stream then turns to the east and again enters Wyoming, to receive a number of tributaries from the Salt River range, which more than replace all the water diverted above.

People of Wyoming who use water from the river for the purpose of irrigation have been for the past ten years clamoring for an establishment and protection of their rights according to the State laws. The State irrigation authorities have determined the priorities and amounts of appropriations on contiguous State streams, and water commissioners protect these in times of scarcity. They can do nothing for the irrigators along Bear river. So far as practical results are concerned the State laws do not apply. It is useless to determine priorities of ditches wholly within the State when later ones with head gates across the border in Utah cannot be closed, because the water commissioners' authority does not extend that far. The same state of affairs exists along the boundaries of other arid States.

The bulletin describes the water supply, the location and character of the irrigation works along Bear river, the claims to water from the river and its tributaries, and the irrigated and irrigable lands in the Bear River valley, and discusses interstate water rights in the Bear river.

It gives a description of the physical conditions, which shows that there is no danger of diversions above creating a disastrous scarcity below; that the contributions of each State to the river's supply has an approximate relation to the use in that State, and that relief from existing evils can be had by improving the remarkable opportunities for storage rather than through litigation over the natural flow. The discussion of the changes in property rights in the river the moment its waters cross an invisible barrier can scarcely fail to lead in the near future to a less violent difference in the laws which govern these rights.

Industrial Notes.

—Nothing but a reversal of the order closing the Philippine ports will prevent a famine in hemp.

—From July 12th to Oct. 20th the White Horse, Alaska, horse railroad carried 11,000 tons of freight over its five miles of wooden length for $20 per ton. Next season the railway takes its place.

—General Greely, Chief Signal Officer, U. S. A., says as to a Pacific cable: "In order to join closer together the United States and its Pacific colonies it is essential to span the Pacific by a submarine cable, as recommended by the President to Congress in his message of February 10th, '99. The great value of such a cable is not alone for military purposes, but more especially for the fostering of industrial interests in the new colonies and in order to facilitate commercial operations."

—Instancing the present scarcity of workmen in the Canadian West, the *American Manufacturer* notes where agents of some American contractors have been actually "stealing men." They offer higher wages and thus induce the men to go across the border. The contractors for the Ontario & Rainy River Railway report that they needed 2000 men but have only succeeded in securing 500. Wages being paid match those given in the early days of American railway construction west of the Mississippi; $2 to $3 is freely offered.

—Commerce between the United States, Hawaii and the Philippine islands grows rapidly. The following tables show the exports to and imports from Hawaii and the Philippines in the nine months of each year since '94:

EXPORTS FROM THE UNITED STATES TO—

Nine months ending Sept. 30—	*Hawaii.*	*Philippines.*
1894	$2,431,666	$67,473
1895	3,139,886	121,948
1896	2,890,807	112,148
1897	3,76[illegible]268	54,260
1898	4,579,827	84,856
1899	8,230,016	777,329

IMPORTS INTO THE UNITED STATES FROM—

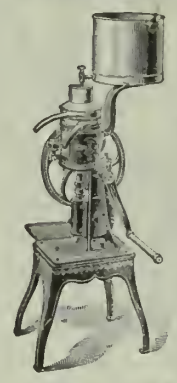
Nine months ending Sept. 30—	*Hawaii.*	*Philippines.*
1894	$8,154,192	$2,307,006
1895	6,960,149	3,254,445
1896	13,602,961	4,693,826
1897	13,044,231	3,392,060
1898	14,611,285	3,164,004
1899	19,495,831	4,493,302

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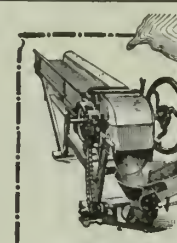
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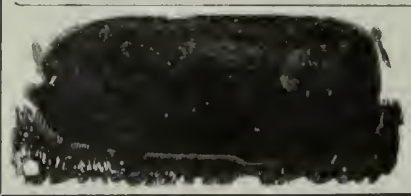
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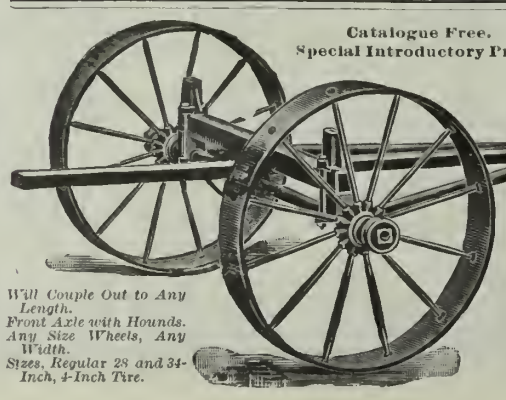
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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 31, 1899.

636,114.—TREATING ORES—Cain, Soderling & MacKnight, Bodie, Cal.
636,117.—SEPARATING BITUMEN—A. S. Cooper, S. F.
636,199.—CUE CHALKER—C. W. T. Davies, S. F.
635,757.—CAR COUPLING—C. E. C. Eddy, Tacoma, Wash.
636,136.—VACUUM TANK—L. L. Gross, Petaluma, Cal.
636,202.—ELEVATOR—C. I. Hall, S. F.
635,852.—TELEPHONE CALL APPARATUS—G. B. Heath, S. F.
636,139.—FIRE ALARM SIGNAL CIRCUIT—W. R. Hewitt, S. F.
636,231.—HEEL SHAVE—E. Hoglund, Los Angeles, Cal.
635,778.—BICYCLE BRUSH—W. A. Hudelson, Jefferson, Or.
636,211.—SHOE BLACKER—T. E. Lister, Los Angeles, Cal.
636,169.—DOOR OPENER AND CLOSER—J. Ohring, S. F.
636,177.—CAR SAFETY LADDER—J. H. Rapp, Fort Apache, Ariz.
635,809.—STRAW STACKER—W. W. Richardson, Pomeroy, Wash.
635,945.—THAWING EXPLOSIVES—W. J. Smith, S. F.
635,824.—LIFTING JACK—L. C. Vickrey, South Bend, Wash.
636,090.—AIR HEATER—Waterman & Morison, S. F.
636,091.—FLUID HEATER—Waterman & Morison, S. F.

Notices of Recent Patents.

Among the patents recentiy obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

FLUID HEATING APPARATUS.—E. R. Waterman and R. R. Morison of San Francisco, Cal. E. R. Waterman having assigned his interest to P. S. Regnart of same place. No. 636,091. Dated Oct. 31, 1899. The object of this invention is to provide an apparatus which is especially designed for heating liquids for various uses. It comprises an exterior containing vessel having rigid therewith an interior double-walled chamber segmental in cross-section, said chamber having its double walls closed at the top and open at the bottom, and at one side an open communication with the exterior vessel. An electrical heater is preferably employed, and the form of the chamber is such that a free circulation between the inner and outer portions is provided so that the liquid may be further rapidly heated.

VACUUM TANK AND WATER LIFTER.—L. L. Gross, Petaluma, Cal. No. 636,136. Dated Oct. 31, 1899. This invention is designed to provide a water-lifting apparatus which can be utilized for the purpose of filling tanks with water or other liquid or semi-liquid which can be drawn into the tank by vacuum. It consists of a tank having inlet and outlet openings, a source of supply for gas-producing material, a measuring chamber intermediate between the source of supply and the vacuum tank, and this is adapted to discharge the gas-producing material into the tank. A valve stem extends therethrough having valves fixed to it with such relation to each other that when one valve is closed the other is opened, the lower valve being normally closed by a spring, and there is a lever by which the upper valve may be closed and the lower one opened. Means are provided for producing an explosion of the gas within the tank and the subsequent contraction produces a vacuum which will draw up the liquid into the tank.

DOOR OPENING AND CLOSING DEVICE.—J. Ohring, San Francisco, Cal. No. 636,169. Dated Oct. 31, 1899. The object of this invention is to provide a device for readily opening and closing doors which are distant from the operator or inconvenient to be reached, such as street doors opening upon stairways leading to flats or rooms at some distance from the door. It consists of a latch-actuating lever, a rod extending upwardly therefrom, a weighted lever and connections between the outer end of the lever and the door whereby the raising of the lever will pull the door open and the dropping of it allows the door to be closed by the gravitation of the weight. A cord is operatively connected with the weighted or an equivalent lever and passes over guide pulleys by which it is led to the operating point and the latch-actuating rod is so connected that the first pull upon the cord disengages the latch and the further movement acts to pull the door open. When released the mechanism is such that the door closes automatically.

FIRE ALARM SIGNAL CIRCUITS.—Wm. R. Hewitt, San Francisco, Cal. No. 636,139. Dated Oct. 31, 1899. This invention relates to such signal systems as have two independent series in each engine house operated alternately from a central fire alarm office. When a fire alarm is received at the central office it is first repeated over one of the lines called the "main tapper line," and then sent over the other called the "main gong line." Such an alarm would indicate the number of the station at which the fire department is due; but as all the companies do not respond to every alarm, but only to such as are within their own districts, it is desirable to relieve such companies from getting up at night when the call is not in their district. The device also prevents a failure of signals in case the watchman fails to properly manipulate the switches of the local circuit. The local circuit contains gongs, releasing devices, branch circuits having different closing contacts, and a switch in the local circuit is so arranged as not to be normally closed to the different closing contacts alternately, or to the said closing contacts simultaneously, and it is also so arranged as not to be opened at any position to all the closing contacts simultaneously. In conjunction with this is a "main tapper circuit," a branch circuit including one set of the closing contacts, a relay in the local circuit of the main tapper circuit adapted to close the branch circuit. A second branch circuit includes another set of closing contacts and a main gong circuit and relay which is adapted to close the second branch circuit.

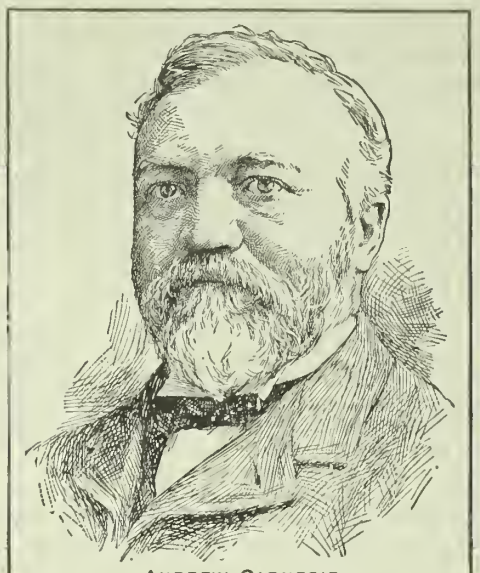
AIR HEATER.—E. R. Waterman and R. R. Morison of San Francisco, Cal. E. R. Waterman having assigned his interest to P. S. Regnart of same place. No. 636,090. Dated Oct. 31, 1899. This invention relates to an apparatus which is designed particularly for heating air, its object being to provide a convenient heater in conjunction with a nozzle through which a current of warm air may be directed into the cavity or upon the part where it is desired to use it and to so temper the heat of this air current as to prevent its unduly distressing the patient. It comprises an outer casing having a removable handle portion fitted to the rear end, an air-conducting pipe interior to the casing, a heater surrounding the pipe, a nozzle inserted in place through the rear end of the casing with an enlarged base flange to seat against the interior of the front end of the casing, and a connection through which air is delivered to the heating pipe. An electrical heater surrounds the air pipe, and a suitable insulating material prevents the escape of the electrical current. A non-heat conducting jacket surrounds the device.

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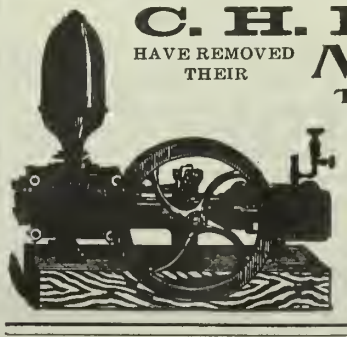
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Some of the Relations of History and Geography.

NUMBER II—CONCLUDED.

Abstract of an address by PROF. C. W. CHILDS before San Jose Grange, which the Grange voted to have published in the PACIFIC RURAL PRESS.

The Roman Empire, at the period of its greatest expansion, comprised all the region around the Mediterranean. The provinces bordering on this sea enjoyed in healthfulness and equability of climate, in fertility of soil, in variety of vegetable and mineral products, and in natural facilities of transportation, greater advantages than any other territory in the old world or in the new.

Present Condition of the Ancient Countries.—If we compare the present physical condition of those countries with the descriptions that ancient historians and geographers have given of their fertility and general capability for ministering to human uses, we shall find that more than one-half of their whole extent is either deserted by civilized man and surrendered to hopeless desolation, or, at least, greatly reduced in both productiveness and population. Vast forests have disappeared from the mountains and valleys; the vegetable earth accumulated beneath the trees by the decay of leaves and of fallen trunks, the soil of the alpine pastures which skirted and indented the woods, and the mould of the upland fields are washed away; meadows once fertilized by irrigation are waste and unproductive, because the cisterns and reservoirs that supplied the ancient canals are destroyed, or the springs that fed them are dried up; rivers famous in history and song have shrunk to humble brooks; the willows that ornamented and protected the banks of the lesser watercourses are gone and the rivulets have dissapeared; the entrances of navigable streams are obstructed by sand bars; and harbors, once marts of an extensive commerce, are shoaled by the deposits of rivers; the elevation of the beds of estuaries, and the consequently diminished velocity and increased lateral spread of the streams that flow into them, have converted thousands of leagues of shallow sea and fertile lowland into miasmatic morasses.

The decay of these once flourishing countries is partly due, no doubt, to geological causes whose action we cannot resist nor guide, and partly also to the direct violence of hostile human forces; but it is in a far greater proportion either the result of man's ignorant disregard of the laws of nature or an incidental consequence of war and of civil and ecclesiastical tyranny and misrule. Man cannot struggle at once against human oppression and the destructive forces of inorganic nature. When both are combined against him, he succumbs after a shorter or longer struggle, and the fields he has won from the primeval wood relapse into their original state of wild and luxuriant, but unprofitable forest growth, or fall into that of a dry and barren wilderness.

The Santa Clara Valley.—Some important lessons may be learned from the study of the settlement and growth of the Atlantic States of North America, but as my time is limited, I will proceed at once to consider briefly some of the physical features of Santa Clara valley.

In quite recent geological times the Bay of San Francisco was an inland sea and covered this valley with its waters. The lower layers of sediment, found in boring wells in our vicinity, is the kind of deposit usually formed at the bottom of lakes. A great change in the level of the mountain barrier between this inland sea and the Pacific ocean occurred, at a weak spot, and the Golden Gate became the outlet of a great bay and river. The mountains surrounding our valley were probably higher and steeper during their youthful days. Storms were more frequent and the rainfall greater. The falling water wore ravines in the mountains and formed rivers which brought down the soil, gravel and sand of the higher elevations and scattered them over the comparatively level plain. In process of time our valley was formed and fit to become the home of man. I shall not speak of the aboriginal people. They neither improved nor marred the works of nature. About a century ago the Spaniards came to this valley. They were few in number and their mission was to Christianize the native people. They found the mountains and parts of the valley covered with forests and the whole region clothed with a luxuriant vegetation. Wild animals and birds were comparatively numerous. The hillsides sparkled with springs of water and the streams were almost perennial. The upper layers of our sedimentary soil were saturated with moisture and sufficient water for household purposes could be obtained by digging a hole in the ground 8 or 10 feet deep in almost any part of the valley. The hillsides were almost as productive of vegetation as the valley, and many of the numerous gulches which now furrow and scar their slopes did not exist.

About a half century ago the real American settlement of the valley began. Like his ancestors on the Atlantic slope and in the Mississippi valley, these pioneers seemed to have a mania for destroying forests, and soon the valley and the hillsides were nearly denuded.

His cattle and sheep assisted in detroying vegetation on the hillsides, and numerous gulches and ravines were formed by the rain which now descended rapidly to the valley. The sources of our streams were affected by the partial destruction of the forests, so that little water accumulated from the winter rains to feed the streams in summer. As the rains formed rapidly flowing rivulets, the soil was washed away into the rivers causing them to overflow their banks and frequently to change their channels, or to widen them at various points, thus destroying much valuable land. Probably some other injurious effects not so clearly perceived, are produced by the destruction of vegetation. The ax of the woodman and forest fires are now rapidly destroying all the remaining timber and underbrush in our mountains.

Shall we not profit by the history of Mesopotamia, the Nile region and the Mediterranean countries? We must act quickly and decisively if we hope to avert some of the threatened dangers. We must also profit by a study of the irrigating canals and reservoirs of the arid regions of the old world. Pumping water is too costly to be very remunerative and we must try to saturate our land in the winter and spring, by conveying through ditches to various parts of the valley, the river waters that now run rapidly away to the sea. Fertilization and intensive cultivation in summer, will then always insure abundant crops. Our people must act together so that we may wisely use all the forces and elements of nature at our command, and then we shall make this lovely valley the paradise of the Pacific coast.

Grange Items.

Los Gatos Grange held a harvest feast in the banquet room of Masonic Hall last Thursday afternoon. About twenty-five visitors from San Jose were in attendance, and the third and fourth degrees were conferred on two members. There were about sixty present altogether.

Progressive Grange of Healdsburg held another all-day session and a class of five was initiated Saturday. After the initiation the members marched to the banquet hall and found the tables beautifully decorated with flowers and laden with edibles of every kind. After the feast the young folks of the Grange rendered a fine programme, which was greatly enjoyed by all present.

At the next meeting of the Grange the subject of fertilization will be discussed, opening with a paper from E. M. Ehrhorn. The Grange will have a harvest feast November 25th, and committees were announced as follows: Mesdames Bettinger, Woodhams, Phelps, Ella Sanders, Pettit and Bennett and Messrs. Glendenning, Dunn and Cooper.

The Co-operators' Convention.

The convention of co-operators recently held in Oakland seems to have been a very satisfactory meeting. It was not a popular assembly, but was largely a confidential conference. The Granges of the State were largely represented. At the last meeting of San Jose Grange, as reported in the *Mercury*, there was a sketch of the convention by the delegates, C. W. Childs and S. P. Sanders. The report of the meeting was given by Mr. Sanders and was a full and complete review of all the important features of the convention. He reported a large attendance of delegates from all parts of the State and said that it was composed of an intelligent body of men, who considered in a conservative manner the important question of co-operation and its relation to the farmer. In the convention Prof. Childs was called upon to explain why Grange stores and banks failed. He gave it as his opinion that it was because of ignorance of business principles on the part of those who had the management. He was asked to write a paper on the subject embodying his expression to be printed in the journal of proceedings, which he consented to do. The proceedings of the convention are to be printed and placed in circulation among those interested in co-operation.

Speeches on subjects relating to co-operation were made by Judge Lewis and F. M. Righter of this valley, who went as delegates from the Farmers' Club.

Several delegates were present from co-operative business institutions that have been organized in the past two years in various parts of the State. All of the delegates gave their experiences of organization, and, without an exception, reported success and a division of good profits among the members of the co-operative unions after paying dividends on the money invested. The Rochdale plan of co-operation was discussed. This is one of the oldest and most successful plans that has ever been carried into operation. Several stores are being run in this State on this plan, and a movement is now on foot to organize in San Francisco a central wholesale store to work in conjunction with the several retail establishments.

He closed his report as follows: "Your delegates were impressed with the earnestness and zeal of those who are already engaged in co-operative store-keeping and recommend to the Grange that it keep in touch with the new union, learn its methods and purposes and try and determine whether it is along this line that we may find the way into that field of co-operation which the Grange has so long advocated and declared its purpose to cultivate."

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In deciding on a Christmas gift to your friend or a member of your family, a year's subscription to the *Youth's Companion* of Boston, Mass., would be in order. It is a standard publication and, like the PACIFIC RURAL PRESS, is always full of valuable material that can be read with present pleasure and profit, and referred to again. The publishers write us that anyone subscribing for their paper now for 1900 can have it sent postpaid from the date of receipt of the order to Jan. 1st, 1901, and with it will also be sent postpaid their beautiful calendar for 1900, all for $1.75.

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WASHINGTON, Oct. 30.—High-grade cattle have been introduced into the Island of Guam, and the Navy Department, which has undertaken the experiment of raising a herd over there, does not want any interference from the Agricultural Department, the branch of the executive government charged with such matters. A report came to the Department to-day that three cows, a bull and a calf—all Jerseys—the first four of which had been sent from the United States on the collier Brutus, had been safely landed in the American possession in the Ladrones. The calf was not with the others when they were shipped at San Francisco. It was born at Honolulu on the voyage across the Pacific, and went ashore at Guam in good condition. The report came from Commander Cottman of the Brutus.

Guam has no milch cows, but the climate is considered favorable for raising them, and the naval agriculturists say they have reason to believe that the experiment will succeed. The cows are expected to furnish fresh milk for Gov. Leary and the marine officers of the Guam garrison.—N. Y. Sun.

These animals were purchased of Henry Pierce from his celebrated Yerba Buena herd. It is pleasing to him, as well as to all naval officers who took an interest in this first shipment of Jerseys to Guam. Mr. Pierce intends to write Gov. Leary to keep the increase of this herd registered, to the end that the Government may have registered Jerseys for its new acquisitions of territory in the Pacific. Mr. Pierce is corresponding with parties in China who are interested in introducing dairy cattle there. He sold two herds to the Hawaiian Islands and one to Japan, from which he has had excellent reports, and has every reason to believe that Jerseys will flourish well in the Pacific islands.

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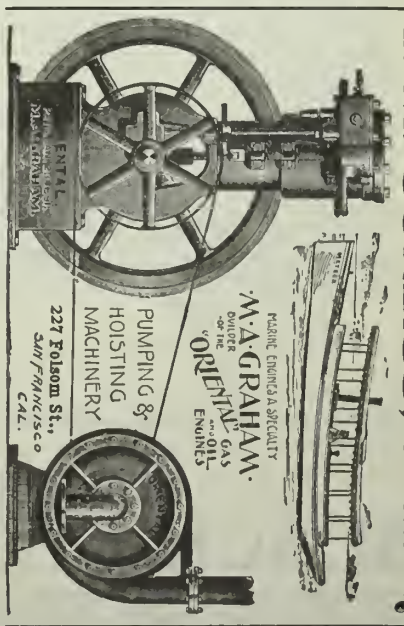
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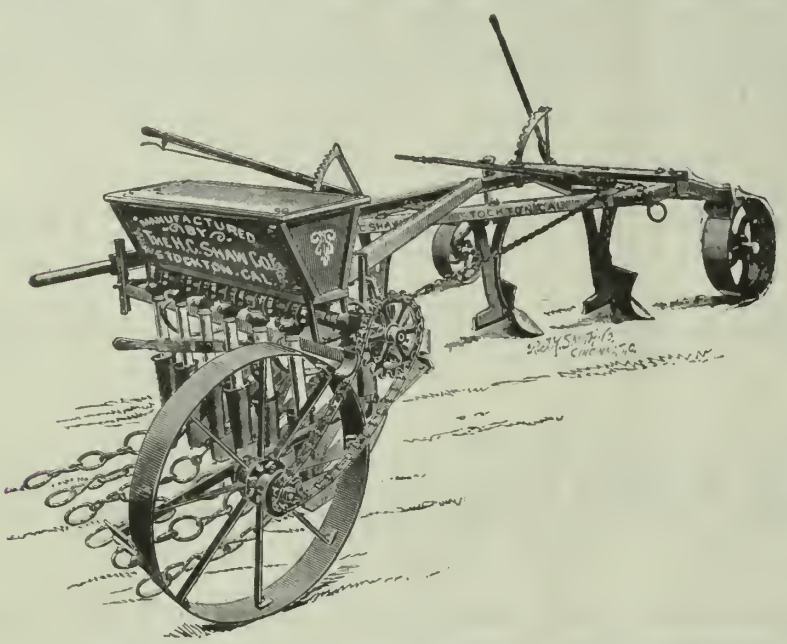


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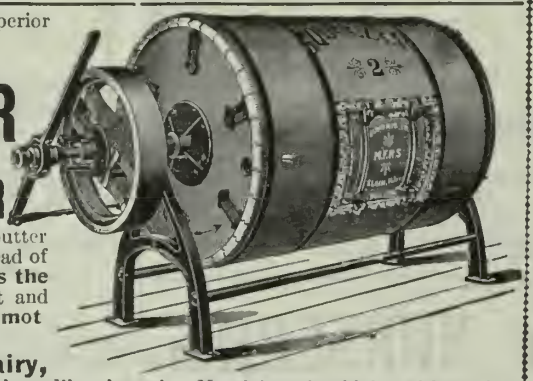
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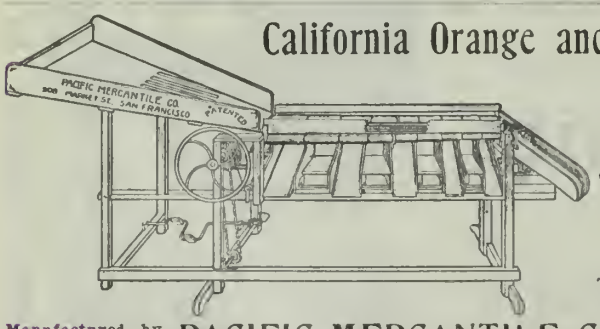
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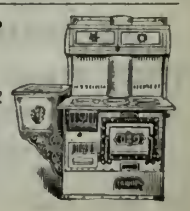
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THE PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 22 SAN FRANCISCO, SATURDAY, NOVEMBER 25, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Several Australian Salt Bushes.

Last week we illustrated the characteristic root growth of the species of the imported salt bushes which is most widely distributed—*Atriplex semibaccata*. Reference to the group of plants and questions about them are so frequent that a few facts and pictures of their aerial habit of growth may be interesting. All which are now prominent belong to the botanical genus *atriplex*, but this genus also includes a large number of saline plants native to this country. For this reason the question sometimes arises, why is it desirable to plant exotic salt bushes when there are many natives? The only answer is that at least some of the exotic species seem to be better, and while it is very desirable that the native species be more carefully looked into, as in fact is now being done, it is wise to give the fullest trial to the new species, which come with quite weighty testimonials of value from the island continent.

We select a few species for illustration which have been most prominent in the University trial and distribution, and which are fully characterized in the excellent bulletin by Mr. Shinn, to which we made reference last week. The most widely distributed of the newcomers is the *semibaccata*, a small-leaved plant of prostrate habit, which is native to the very dry regions of Queensland. It is the species signified when the name Australian salt bush is used in this State. The engraving shows its flat growth, which sometimes extends to a diameter of 16 feet from a single central root. It seems to grow to much larger dimensions in California than elsewhere, which a well-behaved plant ought to do. The picture represents a single plant lying upon a canvas, to show its outlines more clearly.

Another species shown is the *leptocarpa*, which has been somewhat widely distributed in California under the local designation "Salt Bush No. 2." It comes from east Australia and is of trailing habit, something like the foregoing, but it has larger leaves. It resists drought well and is well spoken of by experimenters.

A third is *halimoides*, a more shrubby species which comes from the dry regions of central Australia. This too has been quite widely distributed in California and is well spoken of.

Another is *nummularia*, which is a tall, shrubby salt bush, sometimes ten feet high. It is clearly a browsing shrub. It is better known and esteemed in some parts of the world than are the low forms which are more popular in California. It has a record as hardy against dry hot winds which none of its class can surpass.

The species of *atriplex* have quite marked differences in their seed forms, as an engraving shows. Below are seeds when cleaned of all investing material, and above are the seeds as they usually appear when gathered from the plant.

Another plant of the salt bush group, but of a different genus, is also shown. It may also be of value on waste saline lands.



Salt Bush of Another Genus—Rhagodia spiniscens inermis.



Atriplex nummularia.



A. semibaccata. A. vesicaria. A. leptocarpa. A. halimoides.

Seeds of Australian Salt Bushes.



Atriplex semibaccata.



Atriplex leptocarpa.



Atriplex halimoides.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, November 25, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Rain in good volume almost everywhere is the chief topic of the week. There is an immense area of wheat being sown in the interior, and wherever the soil is not over-moist the plows are going at the top speed. Preparation of new land for fruit is also going ahead, for the results of the past season are very encouraging to planters, who are sure they have the right place for more of such fruits as have paid them well. It will be a good Thanksgiving this year and there will be plenty of poultry, for, in addition to the local supplies, the plains east of the Rockies are sending vast quantities. Seven carloads were unloaded on Wednesday, and we are still a week from Thanksgiving.

Just as we go to press Alexander Craw, State Quarantine Officer, telephones us that he has seized a shipment of Mexican oranges from Acapulco, which are badly infested with the orange maggot, the introduction of which to California has been so long feared. Some oranges contained as many as nine of the worms, and unless this introduction had been stopped by Mr. Craw's vigilance we should have been face to face with the pest on our own soil. This stroke of Mr. Craw's will commend anew the provision which maintains such a safeguard at this port, and will arouse new interest in measures for the protection of our fruit from pests entering by other routes. This work must be maintained.

Wheat and barley are still lower; the foreign demand is light and bears are making as much as possible of the season's outlook. Oats and rye are a little better. Hay and millfeeds are lower; the new grass does not agree with them. Butter is rather weak for all except the finest. Eggs are bringing an extreme rate for choice, which are very scarce. Chickens for broiling are firm. Turkeys are dragging, except for the choicest dressed. The turkey demand promises to be very good this year. Meat prices are unchanged. Colored beans are selling well. Onions are in good demand and higher, and choice potatoes are firm, while common grades are weak. Too many unripe oranges are arriving. Raisins are scarce and high. Wool is still strong and hops dull.

The Cattle on a Thousand Hills.

Our observations during extended trips through the central and northern regions of the State during the last fortnight amply confirm the reports which arrive from all parts that the grass growth this year is phenomenal. Some old residents declare that never has there been at this date a better carpet of verdure over hillside and plain than that which now gives the State a lawn and park-like aspect for hundreds of miles along the valleys and foothills. The temperature, according to the Weather Bureau, has been normal, and this genial warmth, with the abundant moisture, has called wild grasses and forage plants from their roots and seeds into a rich new growth, which gives even to the hillsides the appearance of fields of rank young grain. It is evident from what one sees and hears on every side that California has returned to her old ideal of a winter season, for the State is approaching the first of December with the habiliments of spring time. It is little wonder that such sharp contrast to the uncertain seasons of recent years should create the widest sentiment of satisfaction and the freest disposition toward effort and enterprise which have prevailed for a decade. Everyone seems to have courage and confidence, and the fullest activity is discernible in all lines of industry involved in agriculture.

We feel but one regret as we behold that rich pasturage which is now growing fast on every uncultivated acre. There are not animals enough in the State to gather this immensely valuable growth of herbage. The decimation which has been necessitated by the recent drouth has not been replaced. Our live stock census is largely below the normal. Even last year there was in some counties feed far in excess of the capacity of available stock, and this year, with its vastly better outlook for growth, there will be a far greater discrepancy. No doubt land owners with available capital will bring in cattle to gather the bounty of the season; but there is a condition prevailing outside which promises to limit very much our recourse to importation of stock from other States and Territories. This has been frequently mentioned in these columns in the form of suggestions that the cattle supply of the whole country was running low and that there would be money in stock if one could only produce them at anything like a fair cost. This has been true right along for months, but the exact state of the case has not been made out. This we are able to define now quite clearly by the help of a bulletin just received from the National Live Stock Association, a strong organization of range breeders who take every pains to secure the best possible information affecting their interests. The following in a tabular summary by the Association:

Receipts and disposition of live stock through Western markets for ten months ending October 31, 1898, and October 31, 1899:

CATTLE SUMMARY.

	1898.	1899.	Increase.	Decrease.
Receipts	6,367,933	6,443,110	75,177	.....
Distribution.				
Slaughter	3,409,694	3,636,660	226,966	.....
Stockers and feeders	1,709,235	1,671,948	.....	37,287
Forwarded and export	1,249,004	1,134,502	.....	114,502

SHEEP SUMMARY.

Receipts	6,422,464	6,242,130	.....	180,334
Distribution.				
Slaughtered	4,267,276	4,546,376	279,300	.....
Stockers and feeders	756,083	594,749	.....	161,334
Forwarded and export	1,399,105	1,101,005	.....	298,100

HOGS SUMMARY.

Receipts and slaughter	16,283,216	16,297,099	113,883	.....

The most important feature noticed is the great increase in slaughter compared to the increase in receipts. Receipts of cattle from all sources shows an increase of about 75,000 head, while the increase in slaughter is over 226,000 head. This same feature is even more noticeable in the sheep statistics.

With a decrease of 180,000 head in receipts there is an increase of 279,000 in consumption. To make matters worse, there is also a marked decrease in the number of stockers and feeders returned to the country in both cattle and sheep. The conclusion of the matter clearly is that the country is consuming its reserves in the way of beef cattle and consequently is sending far fewer to the feeders and rangers for future use. Commenting upon these facts the Association says:

The shortage on the ranges of the West is becoming accentuated rather than relieved. The terrible experience of last winter has made range men timorous, and this, with the high prices that have prevailed, has encouraged shipping to an unusual extent. As a result, hundreds of range stockmen have reduced their herds to the lowest possible point, some clearing up everything, while others have shipped down to their breeding stock, even sending their yearlings to market. Many of these shippers are figuring on buying stock cattle in the spring to replenish their ranges, arguing that it is safer to sell now and avoid all risk of winter loss and then buy back in the spring, even if they have to pay nearly as much as at present for cattle.

With the sheep men it is different. The high price of wool and the good demand for sheep has encouraged them to hold on to their flocks and to even increase. As a result fewer lambs were sold for feeders this season, and from best information obtainable the number of lambs to be fed will not reach 60% of the number fed last season.

With all the efforts of the range shippers to clean up their herds, however, shipments from the West will fall far behind the movement from the range last year. This is only another indication that the greatly discussed shortage is real, not imaginary. It is also remarkable that with the high prices and strong demand so few stockers and feeders have been sent to the country. This is explained on the part of sheep in the demand for wool, but the only explanation as regards cattle is the shortage and high prices.

These facts look two ways. In one way they indicate that it may be hard to get cattle to supply our lack, and that the herds may have to build up largely by natural increase, which is a slow process. In another way the facts are a warrant for investment, if one can find stock for sale, and a promise that the product will be worth something, because there is such a shortage of visible supply in the face of so rapidly increasing slaughtering. We are now feeding a good part of the world, it must be remembered, and the volume of cattle which can be profitably handled cannot be altogether measured by past standards.

California, however, occupies a unique position. Owing to the complete freedom from winter disasters it may be a good plan for some range owners to bring cattle here to consume the immense amounts of pasturage which will be available by rent or purchase of pasture lands. Many of these interior cattlemen would be well fixed if they were on California lands. The local demand for beefsteak exceeds the supply. The prospective outlet toward the Orient has quite clear features. It is worth looking into. Certainly the grand growth of forage which is now being made should not lack for feeding animals, and we hope this reference to the subject may suggest to available parties how they may make much money for themselves and for the State by turning to account the grass which is being so generously given.

We give upon another page a resume of the conclusions reached by the Water Storage Convention, which was still in session as our last issue went to press. One can learn from this crystallized expression of views what is contemplated for the future. As we anticipated last week, the convention was practically harmonious in its work throughout, and there is work enough marked out in its platform to keep the promoters of State development busy for some years before they need to decide on the parting of the ways. If both the State and the national authorities work together to secure the data upon which alone any sure enterprise can be based, the whole matter of water rights, feasibility of water storage and equitable distribution of water can be advanced to better popular appreciation and understanding than at present. The new association provided for by the convention is proceeding forthwith, and no doubt announcements will soon issue from it. The hearty co-operation of the U. S. Department of Agriculture and the U. S. Geological Survey with the State convention gave great satisfaction. Mr. Lippincott of the Survey gave an excellent address, and Mr. Elwood Mead, irrigation expert of the U. S. Department of Agriculture, was at once the wise counsellor and the cordial friend of the whole body of the convention. He is working earnestly for the success of the new association and proposes to co-operate with it most thoroughly for the attainment of desirable ends.

QUERIES AND REPLIES.

Buhach Plants and Codlin Moth.

To the Editor:—Do you know of any planting of buhach in orchards to escape the codlin moth? I have been told that in its native country there are no insects.—K., Santa Paula.

We have known of acres of the plant growing in connection with the trees affected with the codlin moth and have never had reported any advantage from such association. We have no idea that it would be effective. Insects do visit the plant when it is growing and are not injured so far as can be seen. It seems to be only when the blossoms are dried and very finely ground that the insecticidal principle is set free. It seems that as we have been growing buhach in this State for so many years in proximity to orchards, if there were any efficacy in it it would have been discovered before this eime.

Belgian Hares.

To the Editor:—Will you kindly state the present San Francisco market price for Belgian hare—that is, for consumption, not for breeding purposes. Am somewhat interested in the above and will consider it a favor if you can conveniently answer through the press.—Subscriber, Concord.

Our market reporter advises us that prices for eating purposes range from $3 50 to $4.50 per dozen. There is some disposition to buy them, but the market men think the demand might easily be oversupplied. How sound this conclusion may be and whether it allows enough for increased demand, if the desirability of the food article becomes more widely known, we are unable to tell.

Forage Plants for the Upper Coast.

To the Editor:—I wish to try something in the forage line this fall, and would like your opinion as to whether Crimson clover, alfalfa and the Soy bean would grow in this section of Mendocino county? Where I wish to try them is on the coast. We have about as much fog and wind in summer as in San Francisco, out near the park. If none of the above are suitable, in your opinion, would you kindly suggest something?—Arthur W. Biggers, Navarro.

None of the plants you name will do for fall planting in your locality. They would all be killed by the frost. Alfalfa will stand the frost the second winter but not the first, starting so late as this in your region. Crimson clover and the Soy bean will be killed every winter. They are only suited for summer growth with a good amount of moisture. You might try the hairy vetch and oats and field peas for winter growth, or sow Italian rye grass. Hungarian brome grass, Orchard grass and some white clover with them. They will also make winter growth.

Crown Knot and Twig Borer.

To the Editor:—I have a three-year-old peach tree in my orchard that has a growth on the main stem, even with the ground, about the size of a hen's egg. Is there any danger of this tree infecting others around it? when is the proper time for spraying peach trees for yellows and peach twig borer?—Subscriber, Marin county.

Remove the knot cleanly and cover the wound with a paste of powdered bluestone, lime and water. This disease is communicable, but there is nothing to do now but treat each appearance of the knot in this way.

We do not have any peach yellows in California, and we believe it is a thing for which there is no remedy in spraying, anyway. Spray for the peach twig borer any time during the winter, using kerosene emulsion, and especially wetting the crotches of the tree.

Gas Tar for Fruit Trees.

To the Editor:—Would you advise putting gas tar around fruit trees, just below the surface of the ground, for killing borers? Would it have any injurious effect on the tree?—Enquirer, Santa Clara county.

It would probably kill the trees if applied in quantities sufficient to penetrate beyond the coarse outer bark. No gas tar nor pine tar nor heavy oil should be put upon the bark of trees. Whitewash, with pine tar stirred in while the lime is slaking—say, a pint of tar to five pounds of lime—is a safe application to use about the base of the tree in the spring to repel the egg-laying moth. We know of no application which can be made directly to the bark, to penetrate to the borer in the burrow, which will not endanger the life of the tree. To prevent climbing insects, all dense, sticky applications should be made upon a paper band placed around the tree, and not upon the bark.

Mr. Pierce's Grape Crosses.

To the Editor:—I have read of crosses of Malaga and Muscat by Newton B. Pierce of the U. S. Department of Agriculture. Has his experiment proved successful, and are cuttings available?—Reader, Shasta county.

The grape seedlings secured by Mr. Pierce by crossing have been quite slow in development. We saw Mr. Pierce in July and he stated that he expected enough fruit would be borne this year to demonstrate interesting points about the varieties. The distribution of the varieties is not likely to be undertaken at once, for Mr. Pierce is a very careful operator and will probably require several years' observations before either approving or codemning them. Mr. Pierce is resident at Santa Ana, and we shall be glad to hear any observations he may be ready to make.

Pumping Proposition for Alfalfa.

To the Editor:—I have read your valued paper from week to week, especially the irrigation part. I will state my case and ask your advice. I own a tract of land of about twenty acres or more that I wish to get in alfalfa. It is rather loose and sandy and the climate is so hot that it will require more water than elsewhere. I will have plenty of water, but it will have to be raised out of a pond. The raise will not exceed 20 feet—I think 15 feet. I can get good wood at $3.50 per cord. If I can make a success I could get more land that could be flooded by the same pump. The freight on what hay I ship in for my dairy is $8 per ton. I use about twenty tons per month. If I could make a success there are thousands of acres up and down this river open for settlement, and mines are being opened, and stock could be raised that would consume thousands of tons of alfalfa. Water cannot be taken out of the river by ditch, as the banks are shifting sand. I have about an acre of fine alfalfa and the Government schools at both Parker and Fort Mojave have fine tracts of it and put up enough hay for all use.—G. N. McCullough, Needles.

This seems, on the face of it, a very clear opportunity to make money by pumping. You have already demonstrated that alfalfa grows well where you intend to plant it on a larger scale. Your opportunities for profitable use of alfalfa at home are unsurpassed up to the extent to which the local demand for alfalfa and alfalfa products can be carried, and up to that extent you will be protected by the enormous freight rate you have been paying. Go ahead on a moderate scale, for unless conditions change you will have to use up locally all you grow. Write to the pump manufacturers who advertise in the Pacific Rural Press the best estimate you can make of the amount of water you need for the acreage you think will pay, basing the estimation on what you have used on the acre which you say is fine. We apprehend that you can secure a pump with reasonable outlay which will make your enterprise very profitable so long as conditions remain anything like what they are at present.

Sparks' Apricot.

To the Editor:—Will you please inform me in regard to the Sparks Mammoth apricot. Is it as large as the Moorpark? Does it ripen earlier or later than the Royal? Is it a regular bearer and would it be advisable to plant in this locality?—A Subscriber, Winters, Cal.

Sparks is as large as the Moorpark and later than the Royal. It has a good bearing record in some places; in others it is reported very shy. Perhaps some reader can give us the results of trial of it in the Vacaville and Winters district. We would also like to hear from all other growers to make out the standing of this rather new variety.

Cypress and Eucalyptus.

To the Editor:—Will the Monterey cypress and the blue gum do well on soil which contains some adobe and water six to eight feet below surface? What soil best suits them?—Reader, Chicago.

Both these trees are growing well on such soil as you describe and on much poorer places also. Both are very hardy so far as soil and moisture are concerned, but both know the best kind of a garden loam when they strike it. The better the soil the better the growth. The blue gum does not like real hard freezing ground and that is about all it objects to. The Monterey cypress takes what comes in California.

Planting Out Eucalyptus.

To the Editor:—Will eucalyptus do well set out at this time? They are yearlings.—J. K. Howard, Sebastapol.

If you have a well drained soil and a situation out of the frost there could hardly be a better time to plant them out. On heavier soil and in colder situations they will usually do better when moved after the cold, drenching storms are over—say in February.

Information has been filed with the Los Angeles Chamber of Commerce here that the pest known as the Mexican orange worm is gaining great headway in the orange groves of old Mexico. The press of southern California has taken up the battle in behalf of the orange industry. Decided action on the part of growers will be taken and the State Horticultural Commission and the railroads will be asked to aid in keeping the pest from invading California.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Nov. 20, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature has averaged nearly normal in all sections. Light rains have been general throughout the State, and have greatly benefited early sown grain and pasturage. The work of plowing and seeding has been somewhat delayed in those sections where rainfall has been heavy during the season, but in the San Joaquin Valley and in southern California the work has progressed rapidly. Early sown grain is making satisfactory growth. In some sections the acreage sown to grain will exceed that of any previous year. Pasturage is abundant in all sections, and cattle and sheep are being driven in from outside ranges. Citrus fruits were benefited by the light rains and warm weather; in southern California oranges ripened rapidly, and picking will commence in two weeks. Orange picking and shipping were retarded by the continued rains in the San Joaquin and Sacramento valleys.

Sacramento Valley.

Orange picking is progressing slowly, owing to continued rain. Olives are also moving slowly. The unusually high temperatures early in the month caused fruit buds to swell, and orchardists feared serious results, but cooler weather has checked this premature growth. Farmers are preparing to sow a large acreage to grain. Range feed is abundant, and early sown grain is growing rapidly.

Coast and Bay Sections.

The olive crop in San Mateo county is said to be a failure. Pruning is progressing. No damage has thus far resulted from frosts. Continued rain has greatly retarded the harvesting and shipment of sugar beets. Grain and grass are growing rapidly. Plowing and seeding are progressing, though slowly in some sections, owing to heavy rains. Early sown grass is looking well.

San Joaquin Valley.

Unfavorable weather has retarded raisin curing; driers are being used extensively. A small portion of the second crop still remains stacked. Orange picking was somewhat delayed by the rains. Olives are of good quality, but the yield is light. Prospects are good for a large acreage of grain in nearly all portions of the valley. Plowing and seeding are progressing satisfactorily, except in the northern section, where work has been retarded by heavy rainfall. Early sown grain is in good condition. Pasturage is abundant, and sheep are being driven in from other ranges. There are still large quantities of potatoes in the fields.

Southern California.

Light rain, followed by warm weather, has been beneficial to citrus fruits. Oranges are ripening rapidly and picking will commence in about two weeks. Lemon orchards are in excellent condition and a large crop is expected. The soil is in excellent condition for plowing and seeding. Nearly all sections report that a large acreage of grain will be sown, in some instances larger than in any previous year. Stock ranges were greatly benefited by the rain and feed is abundant. Early sown grain is in fine condition. In Santa Barbara county barley threshing is still progressing.

Los Angeles Summary.—General rain fell in southern California the first of the week in gentle, warm showers, which soaked into the ground as fast as it fell. All classes of agriculture were benefited. The soil was put in good condition for working. Plowing and seeding have begun in earnest and it is probable that a very large acreage will be planted this season. Early sown grain was improved by the rain and is growing finely. Feed is growing rapidly and stockmen are pleased with the prospects. The weather was favorable for the growth of citrus fruits. Oranges continue to improve and increase in size and color. Picking has begun to a limited extent.—George E. Franklin.

Eureka Summary.—Potato digging is retarded by rain. Some plowing and seeding on highlands. Pasturage exceptionally good.

The following data for the week ending 5 A. M. Wednesday, November 22, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	3.94	12.42	5.96	6.90	40	62
Red Bluff	.88	6.20	1.04	4.11	42	60
Sacramento	.92	6.98	1.50	2.74	46	64
San Francisco	1.91	7.58	2.28	3.00	48	62
Fresno	.90	3.40	1.49	1.32	42	64
Independence	.07	0.90	0.37	1.28	32	64
San Luis Obispo	1.34	5 76	0.67	2.76	44	68
Los Angeles	.66	2.42	0.18	2.10	48	76
San Diego	.36	1.14	0.11	0.64	50	68
Yuma	.00	0.58	0 18	0.16	42	76

HORTICULTURE.

Smyrna Figs.

Written for the PACIFIC RURAL PRESS by JOSEPH BURTT DAVY, Assistant Botanist to the Agricultural Experiment Station, Berkeley, Cal.

At a lecture recently delivered before the Microscopical Society of San Francisco, by Dr. W. T. Swingle of the U. S. Department of Agriculture, Washington, D. C., the whole complex subject of the Smyrna fig and caprification was so ably and concisely treated that I have been induced to try to present it to the readers of the PACIFIC RURAL PRESS in the same form, as far as it is possible with the rough notes taken at the time. In order to protect myself from the charge of misquotation, however, it is necessary to state that I have given a very free translation of my notes.

The fig family is a very ancient one, fossilized specimens having been found in the Tertiary deposits. The genus *Ficus*, to which the figs belong, is large, containing many species, almost all belonging to tropical and sub-tropical countries. All the species produce a milky juice containing caoutchouc, and some yield the best india-rubber of commerce. All the species are said to be dependent upon fig-wasps for cross-fertilization.

The edible figs of commerce are produced by *Ficus Carica*, a native of southwestern Asia. There are four botanical varieties of this species, each of which is the type of a distinct horticultural class of figs, and each of which is the parent of many races and horticultural forms. These botanical varieties are known as follows:

1. *Ficus Carica* var. *silvestris*, the caprifig. This is the wild fig of Asia Minor, whose fruit is non-eatable, but in which the Blastophaga breeds.

2. *Ficus Carica hortensis*, the common fig, which matures fruit, although no fertile seeds are formed, without cross-fertilization.

3. *Ficus Carica intermedia*, the San Pedro fig, of which the first crop will mature without cross-fertilization, although neither in this case are fertile seeds formed; but the second crop depends upon cross-fertilization for the development of any kind of fruit.

4. *Ficus Carica smirniaca*, the Smyrna fig, which under no circumstances develops edible fruit unless the female flowers are cross-fertilized, either by means of the Blastophaga or by hand; this cross-fertilization is known as caprification, because the pollen is obtained from the caprifig.

There are, therefore, two classes of edible figs in cultivation—those needing caprification in order to develop fruit, and those which will develop it without caprification (although no fertile seeds are formed). All the dried figs of commerce belong to the former class; the figs grown to be eaten fresh, to the latter. Fresh figs which have not been caprificated lack, as Dr. Eisen has pointed out, the rich, nutty flavor so much valued in those in which fertile seeds have been developed.

The act of caprification may be performed by hand, as has been practically demonstrated conjointly by Dr. Eisen of San Francisco and Mr. E. W. Maslin of Loomis; but it is more easily and rapidly accomplished by the little fig-wasp, *Blastophaga psenes*, which, in seeking a home for its progeny, unconsciously performs the one act without which the Smyrna fig orchard would be worthless.

The necessity for caprification was known to Herodotus (484–408 B. C.) and was clearly described by Aristotle about 340 B. C. (See Dr. Swingle, in *Science*, Oct. 20, 1899).

The Caprifig.—The caprifig, as we have already observed, is the wild fig of Asia Minor. It does not produce edible fruit, but is, nevertheless, of immense importance to the fig grower, from the fact that its fruit is the natural home of the fig-wasp. This insect, passing through three generations in a year, each having a complete life history from egg to imago, requires for its home, in order that its continuity be unbroken, a fig tree which produces three crops of figs, distributed throughout the twelve months. This condition is found solely in the caprifig, not in any of the cultivated varieties. If the cultivated varieties would produce the right succession of crops, the fig-wasp, once introduced into the orchard, would continue its life history unchecked, and all further trouble would be avoided; but this is not the case; hence, the importance of the caprifig to orchardists.

The three crops of caprifigs occur as follows:

First—Winter figs, or "Mamme," October to April.

Second—Spring figs or "Profichi," April to June or July.

Third—Summer figs or "Mammoni," July to September.

All these crops may occur on the same tree or they may be on separate trees.

The Bloom of the Fig.—As is probably known to all California fig growers, the so-called fruit of the fig is not the product of a single flower, but is itself a head or collection of flowers, which are arranged on the inside of the large, incurved floral receptacle or swollen-out flower stalk. In the caprifig each fig or head of flowers contains three kinds of flowers: staminate or male, pistillate or female, and gall or neuter. The latter are neither male nor female and do not produce seed; they seem to be specially modified to receive the eggs of the fig-wasp, which, indeed, are laid only in these gall flowers.

The Mamme, or winter caprifigs, produce very few male flowers and little, if any, pollen; they are, therefore, entirely useless for caprification of the Smyrna fig; they are important, however, as the winter home of the fig-wasp. This insect hatches out and emerges from the Mamme about April, making its way into the Profichi, or spring caprifigs, which are then just pushing.

The Profichi produce many male flowers and much pollen, which is ripe in June or July, and they are the ones used for caprification.

The Mammoni, or summer caprifigs, push in July, at the time the fig-wasps are emerging from the Profichi. The Mammoni ripen in September, and the fig-wasps which hatch out of them pass into the next crop of Mamme, which push soon after. Thus one cycle is completed and another begun.

The Smyrna Fig.—The Smyrna fig is so called because Smyrna is the port from which it is shipped. It is not cultivated at Smyrna, but in the valley of the Moeander, some sixty miles away, the whole valley around Aidin and the old city of Ephesus being one vast fig orchard.

The Smyrna fig produces only female flowers, and is therefore absolutely dependent upon cross-fertilization in order, not only to develop fertile seeds, but also to mature edible fruit. Now, in order to effect cross-fertilization, it is necessary that the female flowers of the Smyrna fig mature (become receptive) at the same time that pollen is ripe in the tree with which it is to be crossed; and, as a matter of fact, there is a remarkable coincidence between the time of ripening of the caprifig crops and the development of the Smyrna figs. We have already seen that the caprifig produces three crops of figs. The Smyrna fig produces two crops. The first crop, or "Brebas," pushes forth when the Mamme (winter caprifigs) ripen; the Brebas are always malformed, and never develop; but, even if receptive flowers were produced, no crop could be obtained, as the Mamme produce little, if any, pollen.

The second crop of Smyrnas begin to push when the Profichi (spring caprifigs) ripen, in June or July; the latter produce an abundance of pollen, and, as the fig-wasp makes its way out of the Profichi it becomes dusted with this pollen and carries it to the edible figs, which it immediately enters, unconsciously caprifying them.

Varieties of Caprifigs.—It sometimes happens in cold, late seasons that the development of Smyrna figs is retarded until the pollen of the early flowering caprifigs is shed and the wasps have escaped. But even this and other like contingencies are overcome in the Moeander valley by the planting in every orchard of at least three varieties of caprifig—late, medium and early flowering.

Freezes.—In cold winters, which occur at times in the Mediterranean region as well as here, both caprifigs and Smyrnas are sometimes frost-nipped, and sometimes, as last year, are cut to the ground; in such cases the whole stock of fig-wasps is destroyed in those particular orchards. But these freezes do not occur in all parts of the fig region in the same season, so that it is possible to restock the orchards of one district with fig-wasps obtained from a distance; and, as a matter of fact, in such cases, this restocking of the orchards is regularly practised, the orchardists importing caprifigs containing fig-wasps from a distance of sometimes even 200 or 300 miles. This restocking of the orchards by caprification of the caprifigs is performed in June with imported Profichis.

Caprification.—The process of caprification is performed chiefly by women and children; it consists in gathering the Profichi and suspending them in the branches of the Smyrna tree. In the Moeander orchards it is customary to string the hard Profichi on the ends of rushes, which are pushed horizontally through the sides of the fig; if the Profichi are plentiful, two are strung on each end of the rush, which is then thrown up into the Symrna tree and caught among the branches. The fig-wasp, on emerging from the Profichi, enters the figs nearest to hand, not discerning any external difference between the young Smyrna figs and the young Mammoni, which it would enter if still in the caprifig tree. But once inside, the fig-wasp discovers that something is wrong, for, instead of finding short-styled gall flowers in which it could lay its eggs, there are only female flowers with long styles, which are entirely unfitted to receive the eggs; the insect is unable to escape, and, in darting about in vain efforts to find some gall flowers, the pollen with which it was so freely dusted in emerging from the Profichi is rubbed into the receptive stigmas of the female flowers. The little wasp finally dies in the fig without having been able to provide for the reproduction of its kind, and on cutting open a Smyrna fig shortly after caprification one can usually find the dead insect.

Number of Caprifigs Requisite.—To quote from Dr. Eisen's valuable paper on "Figs, Caprifig and Caprification," in the proceedings of the California Academy of Sciences, Vol. V, 1896: "The quantity of caprifigs needed to caprificate a fig tree varies with the size of the tree. In Smyrna some thirty figs are required to caprificate a large, full-grown, edible fig tree. If too few are hung on the tree, an insufficient quantity of wasps is had, and the edible figs are not all pollinated. If too many are hung, too many wasps will enter the edible figs, injure their flowers, and, according to some observers, cause the figs to prematurely drop and decay.

"For smaller trees a less number of caprifigs is required than for larger trees; but even the largest in Smyrna are not given more than thirty figs to the tree. The caprifigs are hung on the limbs of the fig trees before sunrise and when the wind is not blowing. The process of hanging up the Profichi must be repeated several times, as only those edible figs are pollinated which are of proper size and receptivity. For the younger figs new Profichi must be supplied later on, if their maturity is required, and the quantity of caprifigs necessary at any time must be regulated according to the number of figs to be pollinated.

"*Proper Time for Caprification.* — Caprification should always take place when the female flowers of the fig are receptive. This can be easily ascertained by cutting open one of the figs. With a magnifying glass the stigmas of the female flowers should be seen to be bright and light greenish, with a peculiar fresh luster, as if they had been lightly varnished or moistened. Further, the stigmas should be erect; if bent and brownish, they are too old to receive the pollen and past their receptive state. This occurs in Smyrna and the Mediterranean districts in the middle of June. * * * * * In California the time for caprification will vary with the locality. In the bay district, around San Francisco, the Smyrna figs are receptive in the end of July; in the interior, earlier. The edible figs when ready for the caprifigs are about one-third grown, hard and green. The caprifig, again, should be cut when the pollen is properly developed and just before it has burst from the anthers. The caprifigs are then almost full grown, though in opening them the female and gall flowers will not be found developed. The size of the fig varies with the variety—as there are many varieties in caprifigs; but the average size would be 1½ inches long by ¾-inch wide. Some caprifigs are much smaller; thus, the caprifig received from Smyrna and taken there from the fig trees in which they were suspended were almost twice as large as those brought from Palermo. The various races of caprifig vary in size and softness—some remaining always hard, while others grow larger and become soft and pulpy.

"As regards the Smyrna figs at the time of caprification, it may be stated that at the moment when their female flowers are receptive the scales at the eye loosen, or, rather, become flexible, allowing the wasps to enter. This softness of the scales may be easily ascertained, as by pushing a quill or a stick against the fig eye it easily penetrates between the scales, without injury to them and without causing any juice to exude, if the fig is of proper size. On the contrary, if the fig is too young, the scales will be found to be hard and fixed, cannot be pushed back, and the least wounding will cause an abundance of milky juice to exude. If, again, the fig is too old, the scales will be equally hard and fixed, the fig will be yellow and will early drop."

Symbiosis.—Dr. Swingle considers this to be the oldest case of symbiosis (interdependence of host and parasite) known to us, inasmuch as a whole family of insects, containing several genera, has been differentiated so that all the species are dependent upon the members of one particular plant family, to provide homes in which they can carry out the stages of their life history; not only so, but a whole family of plants, including several genera, is dependent upon members of this one family of insects to perform the act of cross-fertilization and enable them to progagate the species. In this connection it is interesting to note that the caprification of the edible fig is of no value to the insect, as this fig does not produce gall flowers capable of receiving the eggs of the wasp, and the insects which enter it must die without reproducing their kind. If, on the other hand, the Blastophaga did not enter the figs of the Smyrna trees, neither edible fruits nor seed would be produced and the race would be lost, unless maintained artificially by cuttings.

SUMMARY.

There are two classes of edible fig in cultivation—those needing cross-fertilization in order to develop fruit, and those which will develop it without cross-fertilization.

Cross-fertilization of the fig is known as caprification, as the pollen is obtained from the caprifig.

All the best commercial varieties of fig (all the dried varieties) require caprification.

Edible figs are usually propagated by cuttings, not from seeds; new varieties can be raised from seed, but these will, manifestly, be hybrids between edible

and uneatable varieties, as the edible Smyrna fig produces only female flowers.

The Smyrna fig is shipped from Smyrna, but is not grown there.

Smyrna figs produce two crops; the first crop (Brebas) does not mature and cannot be caprificated, as no pollen is obtainable at the season when the Brebas develop.

The second crop of Smyrna figs will mature only if caprificated, either by hand or by means of the fig-wasp.

Three crops of caprifig are produced; but only the Profichi (spring crop) can be used for caprification; the other crops do not produce pollen, but are essential to the continuation of the life history of the fig-wasp.

Caprification is effected in June. In order to effect caprification, the Profichi must be gathered at the right stage of development.

As all the figs of a crop are not receptive at exactly the same time, caprification has to be performed two or three times on the same tree in the same season.

About thirty caprifigs are required to caprify a large Smyrna fig tree.

One caprifig tree is found to be insufficient for an ordinary orchard, and in the Moeander valley, which is practically one vast fig orchard, one caprifig is planted to about every 100 Smyrnas.

A frost may destroy all the Profichi and with them all the fig-wasps in one district, which necessitates the importation of Profichi from a frostless district, with which to restore the orchard by caprifying the caprifigs. Mr. Swingle, therefore, recommends that caprifig groves be established in several parts of California, especially in the frostless regions, so that in the event of a freeze the fig-wasp may not be completely destroyed.

It is necessary to have several varieties of caprifigs in each grove—early, medium and late flowering, so that in a late season there may be late-flowering Profichis to provide insects for caprification.

The male Blastophaga is wingless, but the female is winged, and thus is able to fly from one fig to another; she is provided with saw-like mandibles, with which she cuts her way through the interlocking scales which close the entrance to the fig; the wings are lost in entering the new fig, and the female, unable to escape, dies in the fig in which she has trapped herself.

The finest, thin-skinned Smyrna figs cannot be produced at sea level; an altitude of 600 feet is considered necessary for their proper development.

The entire fig crop of western Greece, the produce of an area of about six square miles of orchards, is shipped to Austria for the manufacture of fig coffee.

Hints on Gopher Trapping.

According to the size of the runway, put just enough loose earth so the gopher will push it along. Give him something to do and then he will rarely suspect any harm until he is caught.

Avoid any unnecessary noise where your trap is set. Prevent dogs from scratching and barking at a runway, for such a disturbance will make a gopher very shy.

Better send a man than a boy to catch the gophers, for we cannot afford to make play out of gopher trapping.

If a gopher is at your tree and he is shy also, then spade up his runway near such tree and leave the run open; if he closes it up you open it, and repeat this operation several times. This will make the gopher desperate; then set your trap carefully.

If you strike a double runway and don't know where the gopher is, simply clear away the runs for 2 or 3 feet and let him work; he will certainly tell on himself, sometimes in a few minutes, then set your trap where he last worked. C. W. Roth.

Pomona.

FRUIT PRESERVATION.

Pickling Olives.

To the Editor:—Will you give a recipe for pickling olives? There is a way of curing them by soaking in weak lye water which only takes eight days. Can you give it in the Pacific Rural Press?—Mrs. J. M. T., Ventura county.

Quick extraction of the bitterness requires a strength of lye which destroys the pulp of the fruit. We cannot give an eight-day formula. The following is a careful statement of pickling processes, by F. T. Bioletti of the State University, and it is the best outline of the subject we know of:

Pickling.—The successful production of pickled olives is a matter of experience and depends almost altogether on the individual judgment and skill of the producer. No method can be given which is suitable to all cases, and the best method must be modified according to the nature of the olives to be treated. The following scheme, therefore, is to be considered as a mere outline, to be carefully adapted and modified by the operator at each stage of the process:

Lye Process.—1. Place the olives in a solution composed of two ounces of potash lye to one gallon of water, for four hours. Repeat this once, or twice *if necessary*, to sufficiently remove the bitterness. If the olives are soft at first, or disposed to soften rapidly in the lye, add four ounces of salt per gallon to the lye solution.

2. Rinse the olives thoroughly and replace the lye solution with fresh water. Change the water twice a day, until the potash has been removed from the olive, as judged by the taste.

3. Replace the water with brine composed of four ounces of salt to a gallon of water and allowed to stand two days.

4. Put in brine of six ounces of salt to a gallon for seven days.

5. Put in brine of ten ounces per gallon for two weeks.

6. Put finally into a brine containing fourteen ounces of salt to the gallon of water.

Hints on Handling.—In order to make this process a success the following considerations should be kept in view:

1. Great care should be taken not to allow the olives to come in contact with anything that will injure their flavor. The vats or other receptacles used for pickling should be perfectly clean, odorless and tasteless. Earthenware is the best material, but it is usually cheaper and more convenient to use wooden receptacles thoroughly treated with boiling water and soda until they are sterilized and all taste of the wood removed. Any wood (such as pine) with strong taste should not be used. The vats should be provided with a removable wooden grating, fastened one or two inches from the bottom, and a close fitting floating wooden cover to prevent access of air, which spots the fruit. On top of the vats should be placed a cover of thick cloth or of wood to exclude light and dust. Each vat should be provided at the bottom with a wooden spigot for drawing off the solutions.

The thickness of the layer of olives should not be more than two feet, or less with soft varieties.

2. Only the very best of potash lye should be used. Some of the brands of lye are so impure that it is impossible, without a chemical analysis, to tell within 40% how strong the lye solution actually is when made up. "Greenbank Lye" has been found the most reliable, and may be considered as 100% pure when making up the solution. The length of time which the olives should be left in the lye, and the number of times the lye should be renewed, can only be determined by experiment for each variety and each locality. The object is to extract the tartness of the olive, and at the same time to soften the skin sufficiently to allow the tart or bitter substances to be soaked out in the subsequent treatment with pure water. The tougher and thicker the skin of the olive and the more intense the tartness, the longer must the lye treatment be continued. The lye is sometimes made twice as strong as recommended above, and the treatment correspondingly shorter, but the results are not so good. Just enough lye solution should be used to exactly cover the olives, and occasionally, during the soaking, some of the solution should be drawn off below and poured on top to insure an equal treatment of all the fruit.

3. Only the very purest water should be used, both for the lye solution and for the subsequent soaking. Canal and river water, or any water that contains a great deal of organic matter, should never be used unless it is practicable to boil it first. Distilled water, such as can sometimes be obtained by condensing the waste steam from a boiler, is the best, both on account of its purity and its greater extractive power, provided, of course, it be free from oily flavors. The length of time during which the soaking in pure water should be continued varies very much in accordance with the character of the fruit. If the olives are firm and show no signs of becoming soft it should continue until the tartness is sufficiently extracted. This will vary usually between ten and twenty days. The moment that the olives begin to show signs of softening, however, they should be placed in weak brine, even though the tartness has not all disappeared. What remains can then be extracted by the brine, which should be changed two or three times, as may be necessary. It is not necessary to change the brine quite so often as the pure water, once in two days being generally sufficient.

Salting.—If the olives are soft at first, before treatment with lye, or if they are of a kind that softens rapidly in the lye, it is necessary to use brine from the beginning, either immediately after treatment with lye or, in extreme cases, with the lye. This method, suggested by Professor Hilgard, has been used with marked success. The lye solution in this case should be made by adding two ounces of lye and four ounces of salt to each gallon of water. As the lye acts much more slowly when used in combination with salt, it may be allowed to stay on the olives for a longer time without injury, eight to twelve hours, or even more. In this way the lye solution tends to soften and swell the olives; the brine counteracts this and tends to harden and shrink them. The shrinkhge, which occurs when brine is used from the beginning on naturally soft olives, is not a disadvantage if not carried too far, as such olives are generally too watery to be palatable or to keep well. They can, moreover, if shrunk too much, be made plump again by a few treatments with pure water before being put finally into brine.

The first salting must be done very gradually and carefully in order to prevent shrinkage and wrinkling of the fruit. For this reason gradually increasing strengths of brine must be used, as described, and the olives left long enough in each to be thoroughly penetrated.

In all these operations no sign of scum or slime should be allowed to accumulate on the olives, the vats or the covers. This is of especial importance during the treatment with plain water. On the first sign of sliminess around the sides of the vats, where it appears first, they should be emptied and thoroughly brushed and scalded before replacing the olives.

Pure Water Process.—The best pickled olives are made without the use of lye, but this process is only practicable with olives whose tartness is easily extracted, and where the water is extremely pure and plentiful, and even then it is very slow and tedious. It differs from the last process only in omitting the preliminary lye treatment. The olives are placed from the beginning in pure water, which is changed twice a day until the bitterness is sufficiently extracted. This requires from forty to sixty days or more. The extraction is sometimes hastened by making two or three shallow longitudinal slits in each olive, but this modification, besides requiring a large amount of expensive handling, renders the fruit peculiarly susceptible to bacterial decay and softening. Altogether, the pure-water process cannot be recommended for California, as it is too expensive and uncertain.

Green Pickles.—Green pickled olives are made by essentially the same processes as are used for ripe pickles. The extraction of the tartness requires the same care and the same close adaptation to peculiarities of different varieties as already described. The olives are pickled soon after they have attained full size, and before they have shown any signs of coloring or softening. They contain at this time comparatively little oil, and are every way much inferior to the ripe pickles in nutritive value. They are not a food but a relish. They are rather more easily made than the ripe pickles, as there is less danger of spoiling. There is, however, very little market for any but the largest sizes.

Grading and Sorting.—It is extremely important that all the olives in each lot of pickles should be as nearly as possible uniform in character, in order to facilitate the process of pickling and to produce an attractive appearance. Olives of different varieties, and even those of the same variety from dissimilar locations, should never be mixed. The first sorting is done while gathering, and the under-ripe, over-ripe and injured fruit separated from that which is to be pickled. The good fruit is then graded, by means of a mechanical grader, according to size. In this way the olives are separated into different lots, which will each contain fruit on which the different processes of pickling will act uniformly. A grader adapted to handling soft fruit, that will not bruise the olives, must be used. After the pickling process is finished there will often be a distinct difference of color between different olives of the same lot. Another sorting according to color is then advisable. This must be done by hand, and either two or three colors may be separated, dark and light or black, medium and greenish, according to variety.

THE IRRIGATOR.

Conclusions of the Great Water-Storage Convention.

The great convention of water and forest conservators, irrigators and flood fenders, whose assembly in this city was duly characterized in last week's Pacific Rural Press, finished its labors with a declaration of principles and policies in support of which it is hoped a great popular force will be collected. The following are the planks of the humid platform:

The Problem.—Whereas, the work of reclaiming the extensive arid public and private domain of the State of California is one of great magnitude, requiring eventually the expenditure of millions of money and the work of very many years of time; and, whereas, there is great need of an extensive preliminary public educational work among the people of the State in laying solid the foundation of this great State development, in order that we may be able to command the united and intelligent cooperation of all the people; and, whereas, the conservation and economical distribution of the waters of the State are essential to human habitation of the

arid districts, to reasonable prosperity of the semi-arid districts, and to the full development of the humid districts, including the conservation of forests:

The Agency.—To the attainment of this end this convention proposes the establishment of a permanent society, whose membership shall come from all parts of the State, which may include as subordinates or by amalgamtion all existing societies organized for these purposes and which shall be endowed by membership fees, the contributions of citizens and public bodies, with a revenue ample for its purposes. The objects of such association shall be as follows:

The Purposes.—We favor the preservation and development of our national resources by the construction of storage reservoirs by the Federal Government for flood protection, and to save for use in aid of navigation and irrigation the flood waters which now run to waste and cause overflow and destruction.

We favor the construction by the Federal Government of storage reservoirs and irrigation works wherever necessary to furnish water for the reclamation and actual settlement of the arid public lands.

We favor the leasing of the public grazing lands at a nominal rental in limited areas to settlers farming adjacent lands, the revenues from rentals to go to the States and Terriories wherein the lands are situated for irrigation development; leases to be subject to right of reclamation by irrigation and of settlement of lands actually cultivated; title of land to remain in the Federal Government until actual settlement; the leasing of said lands to be under the control of States where situated, and the revenues arising therefrom to be expended by the States under the direction of their State engineering bureaus.

Provided, that in any State having no engineering bureau, the Federal Government may lease the lands and expend the revenue in the construction of irrigation works in that state.

We urge upon the Congress of the United States the importance of carrying into full effect the legislation enacted with a view to securing the broadest and most effective action by the National Government for the preservation and reforestation of the forest lands of our country, and the resulting conservation of our timber and water supplies and systematic utilization of our lumbering resources.

We favor the establishment of a national commission for the equitable adjustment of all differences arising from the approproation and use of the waters of the inter-state rivers.

State and Nation.—We desire and urge upon the National Government that the public forests at and adjacent to the watersheds of our streams be reserved as rapidly as possible, and that, pending such action, no forest lands be leased, except from year to year.

The State to assume such control of the public lands as may be delegated to it by the Federal Government, and expend the revenues under the direction of a State Engineer, to be provided for by law, superintending the funds received from Federal sources by such appropriations of its own for the storage of flood waters as may be deemed advisable, as to drainage baisin, after due investigation and report by the State Engineer, which report shall show the cost of the proposed improvement, the storage capacity to be credited, the average duty of water in the irrigation basin, the number of acres to be irrigated as the result of storage, the present ownership of and value of such acreage, what such lands could afford to pay for water delivered thereon, what power could be developed by the proposed improvement, and the purposes for which and the prices at which such power could be sold.

Co-Operation With General Government.—The society to be thus formed to work in collaboration with the National Government in any irrigation work which it may undertake in the State; with the United States Geographical Survey in the determination of suitable sites for the location of reservoirs and the solution of all other physicial problems up to the time of the actual impounding and diversion of water; with the State Engineer's office for all matters pertaining to the impounding and distribution of waters; with the Department of Agriculture for the determination of the duty of water in each irrigation basin, the investigation of claims upon and titles to the waters of the State and the regulation requisite to assure to each irrigator an unquestionable title and uninterrupted used of water legally apportioned to him in accordance with his use and his necessity. For the conservation of the forests the society shall work in collaboration with the General Land Office and the division of forestry of the Department of Agriculture.

The University.—Pending the establishment of a State Engineer's office the society shall request the regents of the State University to conduct, through the engineering department of the university, investigation necessary to supplement physical data collected by the General Land Office, the Geological Survey, the Department of Agriculture and the Engineer Corps of the United States Army; and the society shall pledge to the regents whatever funds may be required for this purpose.

The Society.—That the name of such permanent organization shall be the California Water and Forest Association.

Any person may become a member upon payment of an initiation fee of three dollars, and thereafter annual dues of one dollar.

Its affairs shall be managed by an advisory council of seventy, ten to be selected from each Congressional district, five of whom from each district shall be elected by this convention and nominated by the delegates from each such district respectively; and said members, so elected, shall meet and organize immediately, select five more members of such council from each Congressional district, adopt a constitution and by-laws for such association, and elect such officers as shall be provided for therein.

Legislation.—We urge the adoption of a system of irrigation laws in California, under which the right to the use of the water for irrigation shall vest in the user and become appurtenant to the land irrigated and beneficial use be the measure of the right.

That this convention declares in favor of such legislation as will require all persons and corporations using or claiming any part of the waters of any stream in California, within a reasonable time and before a tribunal provided by law for hearing and determining such controversies, to make proof of their claims to such waters to the end that all rights to waters may be made matter of definite record, after which a statue of limitations shall preclude the possibility of again putting such rights into jeopardy, and that the residuary waters be made available for further use under such conditions as the law may impose.

And, further, be it resolved that while we believe it to be our right and duty to secure all the aid possible from other sources, it is the sense of this convention that our laws should insure to private capital already, or which may hereinafter be invested in the develovment, storage and distribution of water, a fair and reasonable return on a reasonable valuation of the investment in such works of storage or distribution, and encourage further investments and renewed activity in the development and supply of water to the arid lands of the State.

The Rivers.—Resolved, That the society shall endeavor to secure such legislation as may be necessary for the preservation, erection and superintendence of easements, jetties, embankments and works of protection in and on the Sacramento and San Joaquin rivers; to secure such other legislation as may be necessary to extend such work to the tributaries of the Sacramento and San Joaquin rivers, and to use all proper efforts to produre the preservation and continuation by the State authorities of the work erected or commenced for river and reclamation improvement on the Sacramento and San Joaquin rivers, and to use all means in our power to secure the co-operation of the Federal Government to accomplish these purposes.

METEOROLOGICAL.

Weather Conditions Analyzed.

Movements of High Barometer Areas and of Low, Rain-Bearing Areas.

NUMBER II.

In the Pacific Rural Press of November 18th we discussed the essential difference between barometrical conditions of dry and those of wetter seasons. Of course a long dry period bore apparently the same barometrical phases as the occasional out and out droughts, except that it eventually terminated. The question is, how does this set high barometer arise? To answer intelligently we will discuss somewhat the air movements of the coast.

Our storms, our calms, in fact our weather conditions originate from the broad Pacific. Occasionally we have a very hot wave or a cold one that comes from the interior, but it never lasts long, as the influence from the ocean soon predominates.

All over the Pacific coast, even as far south as Chili, rains are periodic; on the Atlantic slope they are not. In the narrow part of Central America, where only one or two ranges of mountains intervene, the Atlantic side will have two, three or four times the rainfall of the Pacific slope. The Pacific slope will invariably have periodic rains, an alternation of wet and dry periods in the same year, while rains may fall at any time on the Atlantic slope. Correlated with this periodicity of rains is the periodicity of ocean and atmospheric currents.

We have all heard of the Japan current, that in summer strikes in opposite Alaska and the British Columbia shore, and in winter 800 to 1000 miles lower down, off the Oregon, Washington and Vancouver shore. The moisture-laden atmosphere off the southeast Asiatic coast travels along the course of the Japan current which forms our rain-bearing current. A low barometer prevails in the center of this moisture-laden atmosphere, called the storm center, and on account of the lighter rarefied atmosphere suctions the air towards itself causing a strong in-drift of wind. As this storm center is usually to the north of us the wind preceding and during a storm always appears coming from the south. When occasionally the storm is directly opposite us the wind is easterly.

The High Barometer Area.—Below the Japan current across the broad Pacific is a belt of comparative calms. The air above it has the same eastward movement as the Japan current, but is dry. It therefore has a prevailingly high barometer. Through the summer it lies off the California coast, and from it persistent high barometers prevail, striking in from San Francisco to Eureka and moving northeast into Oregon, and even Washington and then continuing eastward.

With the more southerly movement of the Japan current in winter, this high and dry belt moves down the coast, and strikes centrally opposite the Lower California coast. But in dry winters when the Japan current does not have its average southerly flow this dry belt comes up farther north and apparently strikes in from the southern to the central California coast, crosses over to the plateau region area and enforces that cold and dry area. This was the typical barometrical condition through the dry year of '97–'98, and the forepart of the past season, when up to January 1st droughthy conditions prevailed.

This high barometer area across the southern or central part of the State acts as a barrier against incoming rains. When even rains are deflected down the coast they taper off rapidly as they appreach this high barometer area. South of this high barometer area winds are northerly, as they flow outward from it; or northeasterly to easterly as they come from the Nevada high barometer area, thus we have the prevailing north to easterly winds of the drier seasons. These winds are characterically absent this season. Occasionally we have a light northerly wind in the wake of a northern storm passing due east, to the north of our latitude.

Movement of Storm Area.—Perhaps it may be necessary to those not fully conversant with the movement of storm areas to know when a storm area will move down the coast and when not. This will lead us to a further discussion of our subject. Most of the winter storm areas strike in from Vancouver to Eureka, and move easterly; but when a high barometer area exists over the Rocky mountain region the storm is deflected southerly. It may reach to the central part of the State or it may reach to the southern part, depending on the energy of the storm and the persistence of the high barometer across its eastarly course. Storm areas lose their moisture rapidly as they go inland. Even in Oregon, for instance, while at the mouth of the Columbia, at Fort Canby, nearly 100 inches of rain falls during a season. At Portland, only sixty miles inland, it tapers off to less than half, and in eastern Oregon to perhaps one-fourth of Portland's rainfall.

When the rain is deflected southerly it also tapers off rapidly the farther south it moves. But sometimes barometrical conditions are such that the whole storm area takes a southerly movement, becomes trapped in between the mountains of the coast and heavy rains prevail all up and down the coast. Cold or dry air hanging over the Rocky mountains is therefore necessary to deflect a northern storm area southerly. During very cold spells east we are therefore, if storm areas enter the coast, more likely to have rains south than otherwise. Withal, much depends on the intensity of the storm area. Storm areas vary from probably 100 miles to near 1000 in diameter; storm areas of great intensity have a very low barometer and have a greater impulsion. They prevail most in wet seasons. They can cross over the coast ranges and deposit their moisture inland to a much greater extent than lesser storm areas. They also batter the Sierras with heavy snows. The lack of the normal snowfall is very marked in drier seasons. In wetter seasons occasional storm areas enter directly off the southern coast, affording heavy rainfalls. Occasionally storm areas are divided at sea, or even after striking the land. A part of the storm area may go directly eastward and another part southward. Altogether there are many conditions which complicate the prognostication of rain on the coast.

Altogether the subject has not had the attention its importance demands. We are but slowly evolving some few facts out of the maze of conditions to determine from. Seasonal prognostications are still more uncertain; but yet observations of conditions between wet and dry seasons are so marked, as to be, in my humble upinion, recognizable. If such an opipion has any scientific weight we feel assured that this is the beginning of a wet season.

L. E. Blochman.

Santa Maria, Cal., Nov. 19, 1899.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

HAY RUINED.—Haywards *Journal*, Nov. 18: The heavy rainfall of the past weeks has played havoc with the unhaled hay now in the fields about Livermore. In a great many instances green grass is sprouting from the top of the stacks. Several thousand tons of hay are practically ruined, involving heavy losses to the farmers.

Butte.

WAREHOUSES FULL.—Biggs *Notes*, Nov. 17: The grain warehouses of western Butte are still filled with grain, few sales being reported.

HEMP BUSINESS —Oroville *Register*, Nov. 16: A comparatively new crop in Butte is hemp. It has been grown for the past three or four years on the low fertile bottom lands near Gridley and Biggs. The experiment was begun in 1895, when Mr. Heaney planted 200 acres. It was cut September 1st, pressed into bales of 300 pounds each and shipped to New York. The crop brought $20,000, or $100 to the acre. Others have planted hemp along the Feather river, until now there are about 530 acres devoted to hemp, and the crop yields from $75 to $125 per acre. A mill for breaking hemp stalks has been erected, and there is some talk of a cordage factory being erected in Gridley.

Calaveras.

HEAVY LOSS OF STOCK.—Milton, Nov. 17: Assemblyman Blood, whose summer home is in the high Sierra and whose place is the headquarters for stockmen who run their flocks in the mountains during the summer, confirms the rumor of a serious loss of stock caused by the early fall of snow. Mr. Blood says the heavy rains and warm weather prevailing for the last ten days have lessened the loss to some extent, but it will be severe at best.

Colusa.

BEES IN A CHIMNEY.—Colusa *Sun*, Nov. 18: There was an excitement in J. L. Swank's store this morning when Mr. Singleton put up a stove and was smoked out. All hands went to work to find out what was the trouble, and discovered something clogging the long flue to the roof. On examination it proved to be bees and honey. Smoke and sulphur were applied, and after the death of the workers about 200 pounds of honey, seasoned with soot and sulphur, was taken from the flue.

Contra Costa.

FRUIT FOR THE PARIS EXPOSITION.—Dispatch from Walnut Creek, Nov. 20: Mrs. Daniel W. Bancroft, owner of the Aloha fruit ranch, has forwarded to the Paris Exposition some choice varieties of almonds, pears and peaches. James Rankin, president of the Bank of Martinez, has sent samples of fine English walnuts raised on his ranch.

THREE-LEGGED HEN.—Antioch *Ledger*, Nov. 18: R. A. Campbell has a curiosity in the poultry line. It is a hen eight months old, perfectly healthy, that has three legs. Two of the members are where legs usually are on a chicken and the third grows up out of the hen's back. The leg on the back is not as strong as the other two, but it comes in quite handy when she wants to hop along under low shrubbery and pick off bugs that are above her head.

Fresno.

EGYPTIAN CORN RUINED.—Sanger *Herald*, Nov. 18: B. F. Leathers informs us that a great deal of Egyptian corn has been ruined by the recent rains, which caused the kernels to mildew and blacken before the heads matured.

ORANGE RETURNS.—*Herald*, Nov. 18: The returns from the first carload of oranges shipped eastward from this station about three weeks ago by the Earl Fruit Co. show that the growers received $2 per box f. o. b. for Seedlings.

RAISIN DRYING.—Vineyardists who are unable to dry their second-crop grapes on account of the damp weather, are hauling them on trays to the driers near Fresno, paying $20 per ton to get them dried by artificial means. This additional expense is heavy, yet it leaves a small profit at the prevailing prices of raisins.

PERSIMMON TREES BEARING. — Many persimmon trees in this section have come into bearing this season and are yielding fair returns to the owners. Probably the largest number of these trees are in the St. Louis orchard, and ten tons of 'simmons have already been picked and shipped. Buyers are paying $15 per ton f. o. b.

ORANGE SHIPMENTT. — Fresno *Republican*, Nov. 16: F. S. Booth reports that the crop of oranges in the valley will amount to 300 cars, about one-half being shipped from Porterville and the rest from Lindsay and Sanger. They are of good quality, mostly Navels, and are netting good prices. The crop is larger than last year. About eight cars of lemons will be shipped this year. Three years ago a number of large orange and lemon orchards were laid out and will soon be in bearing, and it is likely that next year's crop of citrus fruits will amount to 500 cars. Last year's crop was 11,552 boxes of Seedlings and 5191 boxes of Navels.

Horse Owners! Use

GOMBAULT'S



Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

Glenn.

CROP PROSPECTS.—Orland *Register*, Nov. 17: Farmers are becoming alarmed over crop prospects. Their fallowed ground which was not seeded before the rains is now covered by a 4-inch growth of wild oats. Some of our extensive farmers will find it necessary to replow thousands of acres of land which a few weeks ago they considered ready for the seeder. On the Grant the conditions are even worse. Not one-third the seeding has been finished on this ranch.

Humboldt.

WILL SHEAR ANNUALLY.—Eureka *Standard*: Many of the Humboldt wool growers are discontinuing the practice of shearing their sheep in the fall. The fall clip sells for less than the spring clip, besides making the spring clip shorter and less valuable. Where sheep are healthy they will carry the fleece throughout the year and give a much more valuable crop than when sheared twice a year. It is probable that the wool grower who has healthy sheep will get more net cash for his wool crop if he only shears his sheep in the spring. He saves the cost of one shearing, and although he may not have quite as many pounds of wool the fiber will be longer and the price paid for it better.

Los Angeles.

ORANGES SHIPPED.—Pomona *Times*, Nov. 15: A car of Glendora oranges was shipped East yesterday.

PROFITABLE LEMONS.—M. L. Sparks has already taken $230 per acre from his lemons since January 1st, and expects to make the amount reach $300 before the end of the year. All that with only three irrigations, and not a big year for lemons either.

SEWER FARM PROFITABLE.—Pasadena *Star*, Nov. 15: The city sewer farm will yield over $5000 to the city this year. Manager H. Reynolds states that 37,000 pounds of walnuts have been sold from the farm this year, yielding $3023.39. Hay, hogs, wood and walnuts have been sold to the amount of $1468.66. The walnuts in the last figure were the second and third rate ones, which were not shipped to Chicago. The expenses this year for running the farm will be about the same as last year—$2391.73—so a nice profit will accrue to the city.

Merced.

GRAIN PROSPECTS.—Los Banos *Enterprise*: Early sown grain is growing nicely. Feed in the hills is all that could be desired. In many places the grass is a foot high and growing every day. There is a demand for alfalfa land, which has been created by the success of the local creamery.

Modoc.

THRESHING ALFALFA. — Surprise Valley *Record*: The Alfalfa thresher conducted by Messrs. Allenwood, Dyke and Allen finished threshing alfalfa seed last week. They threshed 17,000 pounds for John Dyke, 1300 for J. Allen, and several other crops, which will easily bring up the amount to 20,000 pounds. About 50,000 pounds of alfalfa seed was threshed in Surprise Valley this fall.

Monterey.

RESTOCKING RANGES.—MONTEREY, Nov. 18: David Jacks is restocking his cattle ranges, a thing no stock raiser in this section has done for several years past. Mr. Jacks shipped 1000 cattle from Arizona and they are expected to arrive soon. The early, plentiful rains give ranchmen assurance of ample feed for this season. Several other stockmen are preparing to increase their herds.

Orange.

BEET CROP.—Anaheim *Gazette*: Miss Phebe Jones has kindly furnished us with the following figures of the season's beet product, together with the amount of money paid therefor, as raised in this valley for the Chino sugar factory: From Bueno Park and Benedict 2017 tons and 1620 pounds of beets were shipped, the gross amount paid for which amounted to $8986.58; less freight at 50 cents a ton ($1008.90), leaving a net balance of $7977.68. From other points, including Compton, Palata and Carmenita, 2128 tons and 1800 pounds were shipped, and amounted to $9095.58, less freight ($1054.45), leaving a net balance of $8031.33. The sugar content ranged from 12% to 23%, the average being 17. The purity 72 to 91, average 82. The average tare was 3%, and the average weight of the beets was 1½ pounds.

WALNUT SHIPMENTS. — Santa Ana *Blade*, Nov. 17: This season's crop of walnuts is of unusually good quality, although in some sections the yield has not been as large as in some years. There have already been twenty-eight carloads shipped, and they are being sent forward at the rate of two carloads a day. This year the output will be a little over forty carloads. The present price of walnuts is 9 cents per pound, and the output of this immediate vicinity will net fully $70,000 for the growers this season.

San Bernardino.

FIRST CAR OF ORANGES.—Redlands *Facts*, Nov. 15: The first carload of oranges shipped from this section was forwarded last evening by A. Gregory from East Highlands. They were well colored, heavy and the skins were very smooth.

BELGIAN HARE ASSOCIATION.—*Sun*, Nov. 17: The San Bernardino Belgian Hare Association has been organized, the object of which is to encourage the breeding of the animals for the home market. The association selected the following officers: A. E. Ade, president; J. H. Poole, vice-president; W. H. Miller, secretary.

WATER FILING RECORDED.—*Sun*, Nov. 16: A water filing was filed by W. L. Spoor as trustee, claiming 10,000 inches of water flowing at the mouth of Holcomb valley. The water is to be diverted by means of a dam, canal and pipe line to Redlands, Crafton and Highland.

San Joaquin.

VOLUNTEER CROP.—Stockton *Mail*, Nov. 13: Recurring showers have soaked the ground so much that in the adobe land farmers have about given up hope of being able to sow grain, and think of allowing the volunteer grain to continue and cut it for hay. Many fields of wheat, oats and barley are from 6 to 10 inches high, and a good hay crop is assured. Even should the adobe dry enough to be plowed, farmers fear they would be caught by rain and prevented from harrowing and seeding. So they think it would be better to let the growth continue and save the expense of cultivation. On soils which can be worked wet, sowing is well under way, and in some localities it has been finished.

Santa Barbara.

SUGAR FACTORY REOPENS.—Santa Barbara, Nov. 21: The Santa Maria beet sugar factory reopened yesterday after closing down for a short while. The night shift has been laid off permanently this season. The factory has had a very successful run this season, having turned out about 1000 sacks a day. The beets have averaged about 14% sugar.

Santa Clara.

CHEESE FACTORY CLOSES.—San Jose *Mercury*, Nov. 15: The Santa Clara Cheese Factory, which for more than twenty years has been noted for the excellence of its product, has retired from business. Pastures have given place to orchards until an adequate supply of milk is no longer available.

FREIGHT SHIPMENTS. — Campbell *Visitor*, Nov. 18: The shipments from the Campbell depot for the month of October were: Dried fruit, 866,200 lbs.; canned fruit, 219,300; green fruit, 142,200; wine, 20,000; merchandise, 12,100; total, 1,259,800 lbs. For the same month last year the shipments were 778,300, an increase of 481,500 pounds.

Santa Cruz.

APPLE SHIPMENTS.—Watsonville *Pajaronian*, Nov. 16: For the two weeks ending Nov. 15th, seventy carloads of apples were shipped to Eastern points. For the season to date, 322 cars. Shipments to California and coast points have also been heavy. The Earl Fruit Co. packed Bellefleurs this season in the diagonal manner in which citrus fruits are packed. The boxes can be opened from any side, and they will show uniform grading and sizes throughout.

PROSPEROUS SEASON.—*Pajaronian*, Nov. 16: Last year there was a marked decrease in the number and value of mortgages; and when the roll is made up next spring it is probable that the comparative showing will be the best ever made by Santa Cruz county. Mortgages are being paid off rapidly and but few new ones are being made. Last Saturday nine releases and four mortgage renewals were filed, and that proportion is not unusual. The apple crop has wiped out many mortgages in Pajaro valley.

Solano.

RETURNS FOR FRUIT. — Vacaville *Reporter*, Nov. 18: It is the custom with some fruit growers to wind up the season by payment of Japanese and Chinese help. In a single week Ed Fisher, cashier, informs us that the Bank of Vacaville paid out $25,000 to Japanese and Chinese laborers. The amount they receive during a season would aggregate a very much higher figure. Since May 1st there has been paid to the fruit growers through the Bank of Vacaville over $800,000. This has been almost entirely through checks for green fruit sold in the Eastern market. It does not represent cash transactions nor sales in which payments are not made through the local bank.

Sonoma.

HOP SALES.—Santa Rosa *Republican*, Nov. 13: Thursday and Friday were active days in the local hop market and many sales were made. Five hundred and twenty-one bales of Sonoma county hops changed hands Friday. The record for Thursday was 571 bales and the footings in all these recent sales amount to about 1662 bales. Though it is estimated that this season's yield exceeds the yield of last season by about 5000 bales, and the product is on the average of superior quality, this season's prices do not reach last season's figures. In November, 1898, 17½ cents was paid for hops, though the market went down considerably later. The highest price paid this season is 12 cents, received by Grace Bros. for a small number of bales sold directly to a consumer. C. C. Donovan paid 11¼ cents for several hundred bales.

Sutter.

GREEN FEED.—Yuba City *Independent*, Nov. 17: For the first time in many years we have an abundance of green feed all over the county. Stockmen are well pleased, and as the feed has a good start there is but little danger of frost doing any injury to it.

WATER IN THE TULE.—*Independent*, Nov. 17: Owing to the heavy rains so early in the season many of the tule ranchers along the Sacramento river did not get their bean, potato and other late crops harvested. It is said that over 3000 sacks of corn is yet unharvested and a large amount of beans will be a total loss. Hundreds of sacks of potatoes are now covered with water and in some places the owners are giving half the crop to get the other half dug up.

REPLOWING NECESSARY.—Yuba City *Farmer*, Nov. 17: Seven inches of rain before the middle of November and but little of the fall seeding done, is a state of affairs not often experienced among the farmers of this section. It has been the custom to put in summer-fallow land early, especially in the adobe, but the rapid increase of weeds since the advent of the combined harvesters has compelled many to wait until the early rains have started oats and weeds and then replow, after which the seeding is done and a good clean crop secured. This year the summer-fallow land has been very foul and at least three-fourths of the land needed replowing, so but little dry sowing was done. The succession of rains thus far has prevented much work, but as soon as the weather permits there will be lively times on the farms, and the grain when put in will have a much better chance to make a good growth, as the weeds will be killed and a clean crop harvested.

Tulare.

SKIMMING STATION.—Tulare *Register*, Nov. 17: The skimming station at Tipton started on August 3rd and received up to the first of November 48,700 pounds of milk. The cream was shipped to Los Angeles during August. The butter netted the farmers 17 cents per pound during September and October. The above quantity of milk was furnished by Messrs. Futrell, Mitchell, Burnett and Baghy.

Ventura.

BEET SUGAR CAMPAIGN.—L. A. *Times*: The first campaign of the Oxnard sugar factory commenced August 16 and ceased Oct. 13. The following are a few items of interest: Tons of beets sliced, 63,712; pounds sugar produced, 16,785,400; paid for beets, over $439,000; paid for labor, $80,000; men employed, 550; barrels oil used, 71,487; tons coke used, 902; tons lime rock used, 8228; sugar bags used, 173,523. The total amount of beets harvested was 101,000 tons, the Chino factory slicing all which were not received at the Oxnard factory.

CHILI SAUCE FACTORY.—Nordhoff *Ojai*, Nov. 18: A few months ago a chili sauce factory was established here by Mays & Ortega. They are working twenty-five men and women, turning out 2000 cans of sauce per day, and have enough orders to keep them running till about the first of the year, at which time the chili crop season will be over. The management informed us that they intend rebuilding and enlarging the capacity for a large run next season.

Yolo.

CREAMERY DIVIDEND.—Woodland *Mail*, Nov. 17: At the meeting of the directors of the Creamery Association the regular monthly earnings of the institution, amounting to $3330, were declared payable to its patrons to-day. In addition, the annual dividend to stockholders of 8% was declared payable on December 15th.

GRAIN PROSPECTS.—Woodland *Mail*, Nov. 14: The last rain did much good and very little damage. To the grain sown before the rains the benefit is great. It is so close together and vigorous that in some places it bids fair to become too thick before the season is over. Wheat and barley both look exceedingly well. While it is true that there are many acres of land in Yolo county not yet seeded, it is likewise true that to a great extent a larger portion of it will be put in winter sowing, most of the summer-fallow having already been planted, and the winter sowing can be deferred as late as Christmas without much danger of loss.

Scrofula and Consumption

People tainted with scrofula very often develop consumption. Anemia, running of the ear, scaly eruptions, imperfect digestion, and enlargement and breaking down of the glands of the neck, are some of the more prominent of scrofula symptoms—are forerunners of consumption. These conditions can be arrested, consumption prevented and health restored by the early use of

Scott's Emulsion

Your doctor will tell you so.

At all druggists; 50c. and $1.00.
SCOTT & BOWNE, Chemists, New York.

THE HOME CIRCLE.

Thanksgiving.

Tho' shrill-voiced winds go bawling by,
And sober skies look grim and murky,
Men keep the feast of pumpkin pie,
And slay the pompous bird of Turkey.
The crop-haired saints of Plymouth Rock,
Exlied the Mayflower's sacred wood in,
At every other feast could mock,
But—they were human—loved their pud-din';
With sermon, prayer and psalmody they ren-dered thanks in meeting,
Then homeward solemnly they trudged, and rendered thanks by eating.

Far north of Massachusetts bay,
And westward ever wide and wider,
Has spread the honor of the day
And flowed its hospitable cider.
For all his roaming prodigals
The fatted calf the father slaughters;
The smiling mother round her calls
Her lusty sons and lissome daughters;
Love's beacon, lighted from old days, their homeward steps is leading,
And some, whom life has swindled, are not loth to find good feeding.

Happy whose hearth is spared by fate,
Whose calmer pulses do not tingle,
As musing by his lonely grate,
He minds him of a dearer ingle,
Around whose fires with glowing hearts
His blood and name were wont to clus ter—
Ah, well, that kind of wound still smarts
Beneath the balm of many a luster!
Shall we give thanks that strangers sit within our hallowed places,
Or praise that now the dust of death en-shrouds the dear lost faces?

Go buy a turkey for the poor
And make an end of silly questions;
Thank God, for once, that you are sure
To 'scape Thanksgiving indigestions.
Tho' dark November knows no ruth
For flower or song the frolic May had—
Yet for the golden hopes of youth,
As for the memories of the grayhead,
For the long peace of all the dead, for the brief days of all men living,
May even wandering, homeless hearts make glad Thanksgiving!

Lucinda's Brooch.

A Thanksgiving Story.

It was the day before Thanksgiving. In the kitchen of the Graham farm-house great preparations were going on for to-morrow's feast, for all the Grahams and their relatives, and many of their neighbors, were coming to eat Thanksgiving dinner there, and Aunt Susan, as everybody called Mrs. Graham, was one of those hospitable women who can never do enough for her visitors. Already on the pantry shelves great loaves of cake were ranged, sending out tempting odors to tantalize the children who kept hanging about the door for a glimpse of the good things. And pies, too, cranberry and mince, and doughnuts looking as if they were fairly aching to be eaten, and goodness knows there were mouths aching to eat them. "Oh, my!" cried Johnny, more than once, "don't they look nice? I wish it was to-morrow now, don't you, Ruth? It's an awful long time to wait. I don't mean to eat another thing till to-morrow."

"Yes, they do look nice," said Ruth. "It took me all yesterday afternoon to stone raisins for the cakes, and I didn't eat hardly any, either. Aunt Lucinda says she knows she never made nicer cakes in all her life. I don't know which looks nicest, the cakes or the pies. I guess they are both good."

"I'd like to try 'em, anyway," said Johnny. "An' I tell you what, the turkey will be just boss, for he's fat as butter."

"It seems 'most wicked to kill him," said tender-hearted little Ruth. "I don't b'leeve he'd have had such an appetite if he'd only known what was going to be done with him."

"But turkeys was made to eat," said Johnny, whose appetite did away with all tender qualms of conscience.

Aunt Lucinda was sifting pumpkin for pies. It had been stewed the day before, but the pies had not been baked because Mr. Graham held firmly to the belief that pumpkin pies were never at their best three days after making. "You make them to-day, an I'll tend to the rest o' the work," he said. "Use all the eggs an' cream you want, Lucindy. I never knew anybody who could beat you makin' pumpkin pies. You've got just the knack, somehow. I remember how Jack Stansbury used to say he'd like to live on 'em. Poor Jack! I wonder what's become of him."

Lucinda was thinking of Jack, as she forced the fragrant, yellow pumpkin through the colander. Jack had been her lover, years ago. Everybody had thought "it would be a match." She had thought so, and so had Jack. But often in this world things go wrong—or anyway, different from what we plan or expect—and a lover's quarrel had parted the paths which should have merged into each other, and Jack had gone away, and for years nothing had been heard of him. He might be dead, Lucinda thought, and I am quite sure a tear fell into the pumpkin, and perhaps it was that which gave the pies such a rich, delicious flavor on the morrow. Who knows?

Like most lovers' quarrels, this one had been about nothing in particular. She often told herself that she had been most to blame. But she had been too proud—or stubborn—to say that when Jack and she talked the matter over, and so they separated, loving each other the same as ever, and he had seemed to drop out of existence. Poor Lucinda! Her heart was sore yet with its old sorrow, but she had borne it bravely and hidden it from curious eyes by a pleasant face. "If she is an old maid," the neighbors said, "she's as han'some as most girls. It was allus nat'ral for the Grahams to keep their good looks."

Busy with thoughts of the past, she sifted her pumpkin, and best eggs and cream together and made the savory filling for her pies.

"There!" she said, as the clock struck noon, "they're all ready for the oven. If you're going to see to the baking of them, I'll go and fix things in the parlor, Susan."

She went up to her room to wash her hands and comb her hair before she began the task of "fixing things," in the "square room," as good old Deacon Graham called it. As she stood before the glass she discovered that her brooch was gone.

"Dear me! what if I've lost it!" she exclaimed. "It must be somewhere about the kitchen. I'll run right down and see."

Lucinda's brooch was an heirloom in the Graham family. It was an old-fashioned thing of gold that may have come over in the Mayflower. She had heard grandmother Graham say that it was old when it came to her. Because of its age, and because it had been given to her by her mother, Lucinda prized it very much. She always wore it. "She felt lost without it," she said.

The brooch was not to be found in the kitchen. The house was searched thoroughly, but in vain.

"Dear me!" said Lucinda, with tears in her eyes, "what could have become of it? I haven't been out of the yard to-day, and I know I had it on when I washed the breakfast dishes. I must have dropped it, or somebody stole it. Maybe the Ruggles children found it. They where here, and two or three others, I remember, I wish you'd run over and inquire of all of them, Johnny. I'll give you a handful of doughnuts if you will."

"It's a bargain," declared Johnny, and set out at once on his errand. But he came back without the brooch. Instead he brought a bloody nose.

"I told that Bill Ruggles I'd bet he had got it, an' he up an' thumped me," explained Johnny. "I'd a licked him, only I didn't feel like it, begin' so near Thanksgivin'."

Lucinda couldn't sleep that night, for worrying over her lost brooch. It was almost like losing a friend. Because she had had it so long, and because of the fond old memories clinging about it, it had become a part of her life.

Thanksgiving day came, cool and bright, with a crisp bracing air that brought a soft color into Lucinda's cheeks as she gathered white artemesias from the garden to brighten the parlor. Susan, as she looked out of the kitchen window, thought that her sister-in-law was as good looking, in spite of her 35 years, as any of the girls, and then sighed a little over the romance in the other's life. Though Lucinda was always cheerful and seemingly contented, her brother's wife knew that her heart hungered for a home of its own. Every woman's does. It is natural that it should.

When Lucinda dressed herself to receive the Thankgiving guests, an artemesia with a cluster of its green leaves answered for a brooch. The white flower, against the dark maroon of her dress, showed to such effect that she wondered if folks wouldn't think it almost too gay for a woman of 35. But before she had quite decided the matter in her own mind, she heard a wagon drive up, and looked out of the window to see cousin Nathan's family alighting at the gate. And with them was a stranger. He had already alighted and stood with his back to the house. Something in the broad shoulders and the peculiar carriage of the head struck Lucinda as familiar.

"Jack used to look something like that," she said, with a sigh. Then the man turned to shake hands with Deacon Graham, who had rushed out to greet his visitors with a face half-shaven, and she saw it was Jack himself! Changed, of course, but not so much that she did not recognize him the instant she saw his face.

The roses faded out of her cheeks, and she had to sit down for a minute to recover herself. Jack was alive, and had come back! What had he come here for?

"Don't be foolish," she said to herself. "It's quite natural that he should come here, for cousin Nathan's wife is his cousin, and if he came to visit them, they couldn't leave him at home while they came here to spend Thanksgiving. Of course not. He comes in a friendly way, and why shouldn't he? So don't be silly, Lucinda Graham, but do your best to enjoy yourself and help other folks to have a pleasant time."

But she couldn't keep her heart from fluttering strangely as she went downstairs. In "the entry" she met cousin Nathan's wife.

"I hope you won't be offended, Lucindy," whispered that cheery little woman, as she kissed the other, "but Jack's come back, and I took the liberty to bring him along."

"You did quite right," answered Lucinda, and her cheeks were quite rosy now, for Jack came in, and she went up to meet him with a frank smile and an outsretched hand.

"I am gald to see you," she said. "We were talking about you yesterday, Susan and I, and wondering if you were living. It's a long time since we have heard from you."

"You haven't grown a year older in looks," he said, and his eyes were full of a look that made her eyes falter and droop. Was he going to hold her hand all day? And so many looking on, too!

"My! that feller they call Jack keeps a lookin' at Aunt 'Cindy just as we look at the pies an' things," said Ruth to Johnny, by-and-by.

"Looks as if wanted to eat her up, then," chuckled Johnny, with a long, long sniff of the delightfully tantalizing odors coming from the kitchen. "Wonder if he ain't the beau she used to have so many years ago? I heard ma an' Aunt Desire a whisperin' about Aunt 'Cindy an' somebody she thought lots of, a little while ago, an' I'll bet that's him. Oh, my! Wouldn't it be jolly if she'd get married, an' they'd have a bang-up big weddin'? I don't s'pose Thanksgivin's are anything side o' weddin's. Wonder if they have turkey an' such things!"

Jack an Lucinda had no opportunity to talk over old times before dinner. She was busy with guests and the arrangement of the tables, and he was busy renewing old acquaintances. But his eyes would follow the woman he had loved.

"Dinner's ready," shouted Johnny, by-and-by, and the deacon said the company might as well "pair off." Jack was fortunate enough to secure Lucinda, and he took her in to dinner with such a radiant look on his face that cousin Nathan's wife nodded with great satisfaction to Susan, and that worthy woman nudged her husband, and told him to look at Jack an' Cindy, and he whispered back that they made a good-lookin' couple, an' he hoped—But the bustle drowned the rest of the sentence, what ever it was. Lucinda felt everybody was watching them, and her cheeks got red as roses, and Jack, who was utterly oblivious of anyone else, at least two-thirds of the time, thought she had grown handsomer as she had grown older, and felt an insane desire to throw his arms around her and tell her so, then and there, and ask her if the past couldn't be forgotten, or some of it, at least, and the divided paths be made to run together again.

"Why, Lucinda, what's become of your brooch?" spoke up cousin Nathan's wife, all at once, across the table. "I never saw you without it on before."

"I lost it yesterday," answered Lucinda. "I'd give anything if I could find it."

Just then the pumpkin pies were passed.

"They're good, I know," said Susan, "for Lucindy made 'em, an she can't be beat at pumpkin pies. You remember her pies, don't you, Jack?"

"Yes, I do," answered Jack. And he took a piece, and whispered to Lucinda that he wondered if it would taste the same as it used to. And she blushed, and Susan winked at cousin Nathan's wife, and cousin Nathan's wife nodded back and the wink and the nod were as comprehensive and intelligible to the two women as a dozen sentences of spoken words would have been.

All at once Jack put his napkin to his mouth, and his eyes twinkled as he removed it.

At last dinner was over.

"Don't you want to take a walk?" asked Jack of Lucinda. "I want to look the place over, it's been so long since I've been here."

"Of course she does," said Susan, who had heard the question. "It'll do her good to git out o' the house, fer she's been tied up in the kitchen the last four days. Cousin Nathan's wife and I'll see to the work, so you jest hundle up an' git a mouthful o' fresh air, Lucinda."

The memory of other walks came back to Lucinda as they went out into the cool air of that November day. She did not feel like saying much. Neither did Jack, just then, so they walked along the road where the maples had scattered their gold, thinking much, but saying little.

At last—suddenly—

"I think you said you'd give anything to find your brooch again, Lucinda?"

"Yes, I would," answered Lucinda.

"Then you've got to be as good as your word," cried Jack, "for here it is."

"Where did you find it?" cried Lucinda in delight. "We hunted high and low for it."

"I found it in my piece of pumpkin pie," answered Jack. "I'm going to ask you give me yourself, as reward. You won't refuse, will you? Let bygones be by-gones. I was a fool, in the old days, and I knew it, all the time,

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but I wouldn't own it. Nathan's wife told me she knew you didn't hold such a terrible grudge against me for all I used you so. How is it, Lucinda? Can you overlook the past, and make me happy by being my wife? You know what you said about the brooch, and I always took you to be a woman of your word."

"He did not need a spoken answer to his pleading. He had it in her eyes.

"It doesn't seem possible that I'm going to have you after all the long years since we parted," he said, as they came up the steps from their walk. "Am I awake, Lucinda?"

"I think so," she said, with a happy, little laugh. "I don't remember that you ever had the reputation of walking in your sleep."

"I used to dream of kissing some one," he said, and then he kissed her lips, just as Johnny and another lad or two came around the corner.

"Oh, that boy!" cried Lucinda. "He's sure to go and tell."

"Let him!" said Jack rapturously. "I feel just like telling it myself."

"Don't be ridiculous—you're too old for that," said Lucinda, and they went in.

Johnny had to tell. He couldn't help it.

"It's all right, Susan," cried Nathan's wife in delight, when Johnny rushed into the kitchen with the news. "It old him I knew it would be."

"Dear Lucindy!" said Susan, wiping her eyes. "I'm so glad for her sake. This has been a Thanksgivin' day, indeed, for it's brought two hearts together that never ought to have been sep'rated. I wonder if they'll be married right away?"

"Will there be a weddin', ma?" cried Johnny.

"My sakes!" exclaimed his mother, "I forgot all about the boy. Who said anything about weddin's? What idees young 'uns git into their heads, don't they?"

"You said you wondered if they'd be married right away, an' I know you meant Aunt 'Cindy an' that man Jack," said Johnny. "You can't fool me!"

At Christmas, much to Johnny's delight, there was a wedding. He voted it 'worth a dozen Thanksgivin's," and Jack told Lucinda that it was the pleasantest party he ever attended.

"Why shouldn't it be, since it's our own wedding?" said she.

"Yes, and we've been waiting for it fifteen years," said Jack. "But better late than never!"—Eben E. Rexford.

Persistency.

The characteristic of genuine heroism is its persistency. All men have wandering impulses, fits and starts of generosity. But when you have resolved to be great, abide by yourself, and do not weakly try to reconcile yourself with the world. The heroic cannot be the common, nor the common the heroic. Yet we have the weakness to expect the sympathy of people in those actions whose excellence is that they outrun sympathy and appeal to a tardy justice. If you would serve your brother because it is fit for you to serve him, do not take back your words when you find that prudent people do not commend you. Be true to your own act, and congratulate yourself if you have done something strange and extravagant and broken the monotony of a decorous age. It was a high counsel that I once heard given to a young person, "Always do what you are afraid to do." A simple, manly character need never make an apology, but should regard its past action with the calm of Phocion, when he admitted that the event of the battle was happy, yet did not regard his dissuasion from the battle.—Emerson.

"You are my book of life," he quoth;
"I swear it on my knee!"
"Well, if you'd make a valid oath,
Why, kiss the book," said she.
—Brooklyn Life.

Truth needs no color with his color fix'd,
But best is best, if never intermix'd.
—Shakespeare.

DOMESTIC ECONOMY.

Warm Breads for Breakfast.

It will be found that the appetite of the family at breakfast begins to improve with the brisk, cool weather of October and early November.

It would be difficult to tell which is the best of all breakfast breads. Some would give the highest praise to biscuits, light, flaky and perfect; others would consider that a griddlecake represents the most delicious of all breakfast cakes. The buckwheat griddlecake belongs to the winter table.

In the southern and western parts of our country Sally Lunn is a favorite bread for this season of autumn. It is a bread that is exactly adapted to early fall breakfast. Do not make it in a "sheet." Sally Lunn properly made, as the southern cook makes it, is a soft, light, moist, deliciously golden brown breakfast bread. It is made, raised and baked in a round Turk's head dish of yellow or brown earthenware. It was formerly served in the dish it was baked in. These is not necessary. It can be slipped out of the dish at the last moment and brought entire to the table. Do not cut or break it before it is put on the table. When it is served cut it, using a hot knife. This prevents the cake being sodden when it is cut. Use any table knife, heated in hot water. It does not, however, improve the temper of a good steel knife to heat it. Use an ordinary one.

To make the Sally Lunn, beat the yolks and whites of four eggs thoroughly; add a cupful of scalded milk cooled until lukewarm and a cupful of warm water, also a scant half cupful of butter. Add a teaspoonful of salt. Sift into these ingredients a quart of sifted flour which has been set in the oven until it is warm. Beat the mixture well and add half a yeast cake or a cupful of the perpetual yeast. Beat the batter until it blisters. Let is rise until it is very light. It is generally raised over night. In the morning turn it out of the dish in which it was made and raised. Butter the dish thickly and put the cake back; pour a little melted butter over it or rub it gently with melted butter and let it rise, well covered, for about an hour. Bake it in a quick oven for three-quarters of an hour. If it browns too rapidly at first cover it during the first ten or twenty minutes it is baking.

Another delicious bread for a fall breakfast comes directly from New England. It is a variety of the famous steamed brown loaf of Boston. Sift one cupful of wheat flour, one cupful of yellow Indian meal and one cupful of rye meal with one teaspoonful of salt and three teaspoonfuls of soda into a bowl. Add a cupful of stoned raisins and three teacupfuls of sour buttermilk. Beat the batter very thoroughly, and steam the bread three and a half hours. Leave it in the steamer over night and heat it up in the morning.

Hints to Housekeepers.

A good recipe for tea or luncheon pancakes is as follows: Take three eggs, one pint milk, small teacup level full of flour, sifted, and a saltspoonful of salt. Beat the eggs, then add to the milk which has been mixed with the flour, and beat well. Drop by small spoonfuls into boiling fat, and, when cooked, place upon common wrapping paper to drain. Serve on dish covered with ornamental paper, dropping a spoonful of jam upon every cake.

Heavy linen lace is most attractive for edging table linen. In table squares and teacloths there is a simple hemstitched line of drawn work at the hem and an edge of the lace around. Doilies for platters come oval, edged with the lace, and elaborate centerpieces are chiefly lace, with a small center of fine plain linen, the lace cutting into in fanciful designs. The drawn-work designs show elaborate floral patterns in colors of silk.

An excellent luncheon dish is made by chopping and then mashing to a pulp some cold chicken, seasoning well, and mixing with a cup of cream the yolks of two eggs and sufficient dissolved gelatine to set it firmly. Then press into a mold and put into the refrigerator till needed. Turn out on a platter and send whole to the table to be served in slices. Cold veal or even lamb may be used in the same way, but either will need more seasoning than the chicken.

Feathers can be cleaned by dipping in soap lather. If they are dirty, rub very gently with the fingers. Rinse in clean water, and shake before a fire to dry, being careful not to scorch them. Curl with a blunt penknife. Ospreys and aigrettes are cleaned in the same way. If your flowers are dusty and crumpled, brush first with a soft velvet brush, picking the leaves into shape; then shake gently in the steam from the boiling teakettle. If you have chiffon that has lost its freshness, mix a little melted soap in lukewarm water, pour this into a wide-mouthed bottle or jar, and place the soiled chiffon in it. Cover the mouth of the bottle with a clean duster or cloth, and shake well. Remove the chiffon, and, if not thoroughly cleaned, repeat the process in fresh soap lather. Rinse in clean water and stiffen with gum arabic. Rinse in a clean cloth, and iron when slightly dry.

Domestic Hints.

CELERY.—Cut off the foliage from six or eight heads of celery and remove the outer stalk; shave the roots and have them well washed. Make a batter of a pint of white wine or hard cider, the yolk of three eggs, a little salt and nutmeg, and enough flour to make the right consistency. Dip the heads in this batter, fry in butter, and when done place on a dish and pour melted butter on them.

PICKLED EGGS.—Pickled eggs are appetizing when used as an ingredient of salads or sandwiches. They are put into cold water, which is heated slowly and allowed to boil for an hour. When taken out they are dropped at once into cold water to keep their color; the shells are afterwards removed and the eggs put into good vinegar in which beets have been kept. They should remain at least a week in this pickle.

APPLE PIE.—Cut sour apples in quarters, remove the cores and skins, and cut each quarter in two pieces lengthwise. Fill the plate, putting the pieces of apple round the edge in regular order, and piling slightly in the middle. When the apples are dry, add a little water. Cover with crust without wetting the edges, and bake about half an hour. When done, boil three heaping tablepoonfuls of sugar and one of water five minutes. Add the grated rind of one-quarter of a lemon or one tablespoonful of lemon juice. When the pie is done, remove to an earthen plate, pour this syrup through a cut in the top, or raise the upper crust and pour it over the fruit, or simply sprinkle with sugar and bits of butter. To sweeten before baking, sprinkle half a cup of sugar, mixed with a little spice or grated lemon rind, over the apple. Bind the edges of the crusts with a narrow strip of wet cloth, to keep in the syrup. Or wet the edge of the lower crust, sprinkle with flour, put on a rim, wet and flour that also; fill with fruit, sweeten, put on the crust, and press the edges firmly together.

Rice with Cold Meat.

Savory rice goes well with cold meats. Wash one-half pound of rice, stew it gently in a little chicken or beef broth, with an onion and some seasoning. When soft, dry it before the fire, and put it in the center of a dish, pouring around it the broth in which it was boiled. Cold meat may be utilized in the following way with rice: Cut the meat small as for hash; fill a deep dish nearly full with boiled rice, pour on a little gravy, place the meat over this, cover it with stewed tomatoes, sprinkle with bread crumbs and add small pieces of butter. Bake until brown.



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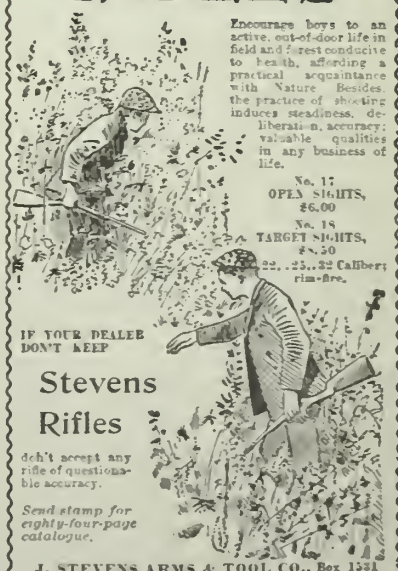
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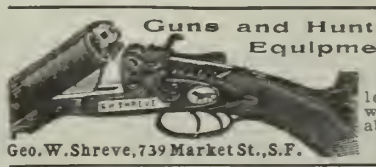
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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 22, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	66¾@67⅜	70¾@71¼
Tbursday	67¾@67⅜	71¾@71¼
Friday	67⅝@66¾	71⅝@70⅞
Saturday	67⅜@66⅞	71⅝@71
Monday	67⅛@66⅝	71⅛@71
Tuesday	66¾@67¼	70⅝@71⅜

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	5s 8½d	5s 9½d
Thursday	5s 8¾d	5s 10½d
Friday	5s 8¾d	5s 9⅝d
Saturday	5s 8½d	5s 9¾d
Monday	5s 9 d	5s 10¼d
Tuesday	5s 8¾d	5s 10⅝d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Tbursday	$1 01⅞@1 02⅛	1 10½@1 09½
Friday	1 02⅜@1 01⅞	1 09⅞@1 09½
Saturday	1 02 @——	1 09 @1 09¼
Monday	1 01⅞@1 01½	1 09⅜@1 08⅜
Tuesday	1 01½@1 01⅜	1 08⅜@1 09⅝
Wednesday	1 01¾@1 01⅜	1 09⅞@1 09½

Wheat.

There is no improvement to note in the wheat market, weakness having been the chief feature most of the time since last review. The foreign demand was insignificant, and under such condition the market could not do otherwise than sag. Spot values for milling wheat showed no appreciable change in quotahie rates, but under selling pressure quotable figures could not have been maintained. In prices for shipping wheat there was a quotahle decline of 25c. per ton. On one small shipment of wheat for Europe the clearance valuation was one cent per lh. In the speculative markets Chicago took the lead in the matter of weakness, May wheat dropping within the week nearly 1½c. per bushel. Liverpool options recovered slightly from the extreme depression of previous week, May gaining ahout 1c. per cental. A stiff freight market stood in the way of this gain being of any benefit to local values for wheat. On San Francisco Call Board there was a depreciation within the week of ahout 1c. per cental in Decemher option and ahout ½c. in May. At this writing (Wednesday noon) the market shows much the same condition as yesterday. Chicago opened moderately firm, hut closed weak at a fractional decline from yesterday's final figures.

While the outward movement of wheat from this port makes a better showing for the month of November than for any previous month the current season, or for any month of the previous cereal year, the aggregate of wheat exports is still very light, and aside from last year's insignificant showing, is almost without another precedent since the wheat trade of this State has been of noteworthy proportions. Up to this writing there have heen ten wheat clearances the current month, aggregating 17,900 tons, value $381,000, and for the four preceding months there were thirty clearances, footing up 52,000 tons valued at $1,136,000, making the total for the season not quite 70,000 tons, with a valuation of $1,517,000. For the portion of November of last year corresponding with the ahovo there were only three wheat clearances, aggregating not quite 7,000 tons, valued at $171,000, and for the previous four months there were only fifteen clearances, the total for the season a year ago being 32,900 tons, having a valuation of $844,000. During the previous five years the lightest outward movement of wheat for corresponding time was in the season of 1894-'95, and then the shipments aggregated 180,000 tons, valued at $3,147,000. The heaviest shipments during the corresponding period for the five years in question were in 1896, when 315,000 tons were forwarded outward, representing a coin value of $7,328,000. It is thus seen that the wheat trade of this State has made some great strides downward during the past two years. It is worthy of mention in this connection that the shipments of barley this season have been nearly double those of wheat. This is without a parallel in the history of the grain trade of California. That the wheat business of this State and coast will show much activity in the near future does not now seem probahle. Present conditions are all unfavorable for any great export movement for some months to come. It is now estimated that the world's supply of wheat is not less than 2,750,000,000 hushels, including a carry-over stock from previous year of about 275,000,000 bushels. The annual consumption is not likely to much exceed 2,500,000,000 hushels, showing a surplus of ahout 250,000,000 hushels. This is not a very heavy quantity to carry into another year, hut in connection with the present good crop prospects for next season in most of the important wheat countries of the world, it is sufficient to impart decided weakness to the market. With growers slow to let go at current figures, and with the importing countries even more indifferent about huying than are exporting countries about selling at current rates, the indications point strongly to a dragging market, especially when the high freight rates and present limited supply of available ocean tonnage are aiso taken into consideration.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.02⅜@1.01⅜.

May, 1900, delivery, $1.09⅞@1.08¾.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 1.01¼@1.01⅜; May, 1900, $1.09⅞@1.09½.

California Milling	$1 02½@1 07½
Cal. No. 1 shipping, alongside	1 00 @1 01¼
Oregon Valley	95 @1 05
Walla Walla Blue Stem	90 @1 05
Walla Walla Club	80 @1 05
Off qualities wheat	75 @ 90

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s10d@6s10½d	5s11½d@6s2d
Freight rates	26¼@27½s	33¾@35s
Local market	$1.17½@1.20	$1.00@1.02½

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

There is a decidedly weak tone to the market, in sympathy with wheat. Prices are and for several weeks past have heen irregular, shading of rates in favor of the buyer heing the rule instead of the exception where noteworthy transfers are effected. Spot stocks are not particularly heavy for this time of year, but are considered ahead of immediate requirements. Changes of prices in flour during the next few months are more apt to be to lower than to higher figures.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

The local market has not shown much life the past week, and there is nothing to warrant anticipating great activity in this center at any early date. One great drawhack to much business heing done here is the comparative scarcity of high-grade harley and the abundance of seriously defective stock. The kind which wonld sell readily at current rates is difficult to obtain in noteworthy quantity, and the buyers of poor stock are so few that they can take their own time in purchasing and have much their own way as to prices, knowing that there will be no lack of supplies of this sort of barley at any time during the season. There is some very smutty and otherwise inferior barley on market for which lowest quotations noted are not readily realized. When it comes to desirable brewing grades and choice feed descriptions, the market does not show particular weakness, hut on the more common kinds there is an entire absence of strength. Call Board business showed a little more life than for several weeks preceding, but was still far from brisk. Fluctuations in speculative values were of narrow compass, with the general tendency of the more remote option, May delivery, in favor of the huying interest, this weakness being in the main due to the bright prospects for the coming season's crop.

Feed, No. 1 to choice	80 @ 82½
Feed, fair to good	70 @ 77½
Brewing, No. 1 to choice	90 @ 97½
Chevalier, No. 1 to choice	1 05 @1 10
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, 83@83¾c.

Decemher, 1899, delivery, 84@84½c.

May, 1900, 80c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at —@—c; seller 1899, new, ——c. Nothing was done in barley options.

Oats.

Values have shown steadiness the past week for nearly all descriptions of oats now offering, and particularly for all other than low grades, any weakness which exists heing confined almost wholly to latter sorts. Choice to fancy feed and select seed oats, especially colored oats desirable for seed, inclined most in favor of the selling interest, with stocks and offerings of the same of slim volume. The largest amount of husiness was in feed oats of medium grade, with values for the same fairly steady, although offerings were of tolerably liberal proportions. The percentage of rain-stained oats from Oregon and Washington is comparatively large, and bids fair throughout the season to prove above the average.

White Oats, fancy feed	1 25 @ —
White, good to choice	1 15 @1 22½
White, poor to fair	1 07½@1 12½
Gray, common to choice	1 10 @1 20
Milling	1 15 @1 25
Surprise, good to choice	— @ —
Black Russian	95 @1 07½
Red	95 @1 20

Corn.

There has been no material increase in supplies of this cereal since last review, and prices in consequence have continued unfavorable to huyers. That this state of affairs will long continue is not probahle. The Eastern corn crop is large, and free importations may be looked for as soon as the corn hecomes sufficiently seasoned to he desirable and to he proof against hecoming heated while en route. The crop in this State is rather light and will likely he slow in coming forward. Some new Small Yellow was received in damp condition and was offered in carload lots at $1.37½. Thoroughly dry Small Yellow would at present readily command ahove figure in carload quantities.

Large White, good to choice	1 10 @1 12½
Large Yellow	1 10 @1 12½
Small Yellow	1 42½@1 45
Eastern Mixed	1 00 @1 02½

Rye.

The market is lightly stocked and is moderately firm at the figures quoted, hut no heavy quantity could be placed at full current rates.

Good to choice, new 1 05 @1 10

Buckwheat.

Several local millers have moderate holdings, but aside from this the market is practically bare. There is not much inquiry, however, the requirements for other than millers' needs being very limited.

Good to choice	2 00 @2 10
Silverskin	— @ —

Beans.

The bean market continues to present a strong tone, with little likelihood of any noteworthy weakness being developed during the balance of the season. The crop in this State was not large, and the output of choice beans has been very materially reduced hy damage through recent rains, many thousands of sacks heing rendered wholly worthless by being unprotected and soaked through and then subjected to warm and murky weather. With the yield in the East below the average, and with the demand greater than for some years preceding, largely owing to increased requisitions by the Government, the conditions are certainly favorable for prices being maintained at current levels, with a strong probability of there being further hardening of rates for most kinds as the season advances, at least sufficient to cover carrying expenses. Trading in white varieties in this center is mainly in Lady Washingtons and Small Whites, these constituting the bulk of spot offerings of white beans. The outward movement in Limas is principally from points of production in the Lima bean district in the southern part of the State. In the line of colored heans, Bayos and Pinks are most in evidence and are receiving considerable attention.

Pea, fair to good, 100 lbs	2 75 @3 00
Small White, good to choice	2 75 @3 00
Lady Washington	2 25 @2 40
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 50 @2 75
Bayos, good to choice	3 00 @3 25
Reds	3 75 @4 00
Red Kidneys	3 00 @3 50
Limas, good to choice	4 85 @5 00
Black-eye Beans	4 50 @4 75
Horse Beans	—— @——
Garbanzos, large	2 50 @2 75
Garbanzos, small	2 00 @2 25

Advices of recent date by mail from New York City give the following report of the bean market, prices quoted being per 60-lb. bushel:

We bavo had an exceedingly good market for small white beans all the week and values bave continued to improve, the demand running a little ahead of the supply. Some of the early sales of choice Pea in bags were at $1.75, but the price soon jumped to $1.80, and that figure bas ruled during the last half of the week with the feeling at times so firm that it was easier to sell than to buy. Barrels bave brought a little more and recent business has been mainly at $1.85 for both State and Micbigan stock. Medium have been relatively scarce and have stiffened to $1.85@1.87½, with most receivers now asking $1.90. Marrow have continued to drag, neither exporters nor home jobbers showing any interest to speak of; at the same time there has been no pressure to sell and values are held steady. It would be difficult to buy choice old stock, which is much better in size than the new, below $2.15, but average best new are offering 5@10c less. Very limited export orders for Red Kidney have come to band again this week and the market has further declined: choice new stock can be bought easily at $2.35, and best old at $2.10@2 15. White Kidney are very scarce, wanted and firm. Yellow Eye bave a little demad in range quoted. Turtle Soup sell slowly. Further considerable lots of Lima have arrived this week and the feeling is easier; only jobbing sales of choice new at $3.35; round lots offering 5c less. Green and Scotch peas bave ruled about steady.

Dried Peas.

The market for both Green and Niles is fully as favorable to buyers as at any previous date this season, with offerings light. Choice Niles are espec ally salable to advantage.

Green Peas, California	2 00 @2 10
Niles Peas	1 80 @1 90

Wool.

The demand continues good, but such heavy inroads have been lately made on stocks, through purchases by manufacturers and speculative dealers, that present supplies afford little opportunity for activity. Not only is the volume of wool now offering in this center of light proportions, hut the quality is in the main far from choice, most of the best wools having been disposed of. Free shipments have been lately made eastward, large quantities having heen forwarded via Victoria and Canadian Pacific, owing to easier freight rates at present by that route than by rail overland direct. Local dealers expect, and with good reason, that the market will he practically bare by the end of the year. If any stocks of noteworthy volume are carried over, it will certainly not be for lack of buyers. Prospects at this early date could not well he more favorable for coming clip, either as to the quality of the same or for the wool coming on a healthy market.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17

FALL.

Humboldt and Mendocino	14 @15
Middle Counties	8 @10
Northern, free	9½@11½
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

The inquiry is far from brisk, and is almost wholly for choice hops at low figures. Choice to select qualities may clean up fairly well at prevailing rates, and for the more common grades the outlook is anything hut bright. There is nearly every season a considerable percentage of hops which are under choice, and this year is no exception in this regard. In Oregon many of the hops turned out very poorly, owing to unfavorable weather during maturing time. In Eastern and foreign centers, the hop trade is reported to be in much the same unsatisfactory condition as here, the demand being slow and only best qualities called for.

Good to choice, 1899 crop	8 @11

The following information concerning hops is from a New York authority, and came through by recent mail:

The local market remains in about the same condition as was reported a week ago. The trade does not expand as much as would naturally be expected at this season of year. Brewers are taking on more stock than they did last month, but are still operating very conservatively and the demand is of a more selective character. This is probably due to the fact that the crop this year is a very mixed one, with preponderance of weak, moldy and poorly picked lots. We do not hear of exports making any purchases here, but they are taking some lots in the interior, and this week's receipts include nearly 1,000 bales in transit for export, over 700 bales arriving from the Pacific coast. The relative scarcity of strictly choice hops bolds the value of such steady, but nearly all other qualities lean in buyers' favor, especially the low grade '99s, and nearly all sorts of yearlings and old olds. Advices from the interior of this State report fair business, at 12@13c for shippers, 10¼@11o for prime brewers' bops, and 8@10c for common to fair grades. Rather more doing on the Pacific coast in range of 9@11½c with lower grades showing mold, down to 7@7½c. Late cables report no change in the English or German market.

Hay and Straw.

Although arrivals of hay the current week were not heavy, the market for the general run of offerings failed to display any noteworthy firmness. A little Wheat hay, or Wheat and Oat mixed, of superior quality, sold to fair advantage, occasionally bringing a moderate advance on quotations, but other kinds met with slow custom at former low range of values. Stocks of hay in the State on Nov. 1st are reported hy the San Francisco Hay Exchange at 157,375 tons, the heaviest quantities being apportioned as follows: Hollister, 18,900 tons; Livermore, 13,500 tons; Pleasanton, 12,700 tons; San Francisco, 10,000 tons. A year ago stocks were reported at 103,660 tons; on Nov. 1st, 1897, at 80,115 tons; and on Nov. 1st, 1896, at 124,150 tons.

Wheat	7 00@ 9 50
Wheat and Oat	7 00@ 9 00
Oat	6 50@ 8 50
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	—@——
Compressed	7 00@ 9 50
Straw, ₱ bale	30@ 45

Millstuffs.

Prices for Bran and Middlings are lower than last quoted, with light receipts, and market very quiet. Rolled Barley tended in favor of huyers. Market for Milled Corn was stiff at the quotations, but will not long remain so.

Bran, ₱ ton	15 50@16 50
Middlings	18 00@20 00
Shorts, Oregon	16 00@17 00
Barley, Rolled	17 00@17 50
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

Seeds.

There is little Mustard Seed now remaining unplaced, either here or at producing points. Values in consequence will be largely nominal during the balance of the season. In Flaxseed there is little spot business, most of that coming forward having been purchased prior arrival. Alfalfa Seed is in light stock and is being very steadily held.

	Per ctl.
Mustard, Trieste	3 25@3 50
Mustard, Yellow	4 25@4 50
Flax	2 00@2 25
	Per lb.
Canary	3½@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	8½@9

Bags and Bagging.

Business in this department is throughout of very insignificant proportions at present, with values nominally as previously quoted. Owing to advance in cost of raw material, prices for Wool Sacks are likely to show a material advance, probably not less than 3@4c., at the opening of the current season.

Calcutta Grain Bags	7 @ 7½
San Francisco Grain bags, 22x36, spot	7 @ 7¼
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3¼ lb	—@28
Gunnies	—@12½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	6¼@ 7

Hides, Pelts and Tallow.

The Hide market shows decided firmness, and is likely to continue in sellers' favor for some months to come, owing to very light stocks. Pelts are ruling steady, with demand very fair and about sufficient to absorb the immediate supply. Tallow is not quotably lower, hut the inquiry is not active at full current rates.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11½@—	10½@—
Medium Steers, 48 to 56 lbs	10½@—	9½@—
Light Steers, under 48 lbs	10 @—	9 @—
Heavy Cow Hides, over 50 lbs	10 @—	9 @—
Light Cow Hides, under 50 lbs	10 @—	9 @—
Wet Salted Kip	10 @—	9 @—
Wet Salted Veal	10 @—	9 @—
Wet Salted Calf	11 @—	10 @—
Dry Hides	18 @—	14 @—
Dry Kip and Veal, 11 to 16 lbs	16 @—	13 @—
Dry Calf, under 4 lbs	18 @—	15 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	90 @1 25	
Pelts, medium, per skin	60 @ 75	
Pelts, short wool, per skin	30 @ 50	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	

Deer Skins, thin winter	—	@	10
Elk Hides	10	@	12
Tallow, good quality	4½	@	5
Tallow, No. 2	4	@	4½
Goat Skins, perfect	30	@	37½
Goat Skins, damaged	10	@	20
Kid Skins	5	@	10

Honey.

Values are being fairly well maintained at previously quoted range, with stocks light. The Panama steamer sailing on the 18th inst. took 203 small cases Extracted honey (repacked) for New York.

Extracted, White Liquid	7½	@	8
Extracted, Light Amber	7	@	7½
Extracted, Amber	5	@	5½
White Comb, 1-lb frames	11½	@	12½
Amber Comb	8	@	10

Beeswax.

Not much on market of any description. There is a good demand for desirable qualities, and more of the same than is offering could be readily placed at full current rates.

Good to choice, light, ₱ lb	26	@	27
Dark	24	@	25

Live Stock and Meats.

Market for Beef showed steadiness, with supplies only about sufficient for immediate requirements. Veal remained quotably as last noted, hnt is likely to rule easier in the near future. Mutton was in fair receipt, hut values were tolerably well sustained at previously quoted range. Hogs were in only moderate receipt and brought fully as good figures as for a week or two preceding.

Beef, 1st quality, dressed, net ₱ lb	7	@	7½
Beef, 2d quality	6½	@	7
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wethers	6½	@	7
Hogs, hard grain fed, medium	5½	@	5⅝
Hogs, small, fat	5⅜	@	5½
Hogs, large hard	5⅛	@	5¼
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ₱ lb	7	@	9
Veal, large, ₱ lb	8	@	—
Lamb, spring, ₱ lb	8	@	8½

Poultry.

Market for Chickens has ruled tolerably firm most of the time since last issue, especially for choice young stock. Offerings of latter sort were light as compared with the demand, either of home product or of Eastern. Turkey market was easier for Live, owing to larger arrivals from the East than the demand warranted. Choice Dressed Turkeys sold to fair advantage. Market for Ducks showed much the same condition as preceding week. Geese commanded a slight advance.

Turkeys, Dressed, ₱ lb	14	@	17
Turkeys, live young, ₱ lb	14	@	15
Turkeys, live hens, ₱ lb	12½	@	13
Turkeys, live gobblers	12½	@	13
Hens, Cal., ₱ doz	4 00	@	5 00
Roosters, old	4 00	@	4 50
Roosters, young, (full-grown)	4 50	@	5 00
Fryers	4 00	@	4 50
Broilers, large	3 50	@	4 00
Broilers, small	3 00	@	3 50
Ducks, ₱ doz	4 00	@	6 00
Geese, ₱ pair	1 75	@	2 00
Goslings, ₱ pair	1 75	@	2 00
Pigeons, Old, ₱ doz	1 12½	@	1 25
Pigeons, Young	1 75	@	2 00

Butter.

There were fairly liberal stocks of fresh butter, but only a small proportion could he termed choice to select. The season North is nearly ended, and in the middle or hay counties the new season is just opening, making the conditions unfavorable in both sections for the production of fine butter. For strictly choice to select the market was tolerably firm at ruling rates, but was weak and slow for all defective qualities.

Creamery extras, ₱ lb	25	@	—
Creamery firsts	24	@	—
Creamery seconds	23	@	—
Dairy select	23	@	—
Dairy seconds	19	@	21
Dairy, soft and weedy	—	@	—
Mixed store	14	@	16
Creamery in tubs	18	@	21
Pickled Roll	—	@	—
Firkin, Cal., choice to select	19	@	22
Firkin, common to fair	16	@	18

Cheese.

Choice mild new cheese continues in very light receipt, and market for such stock is quite firm, with prospects of so continuing for a month or more. Sales are made in a small way above the quotations noted. Held cheese is ruling steady, the bulk of supplies being in comparatively few hands.

California fancy flat, new	12	@	—
California, good to choice	10½	@	11½
California, fair to good	10	@	11
California Cheddar	—	@	—
California, "Young Americas"	10½	@	12½

Eggs.

Market is so very lightly stocked with choice to select fresh that wholesale business is out of the question. By the single case as high as 46c per dozen was realized for very fancy quality, every egg coming up to the most exacting requirements of the most particular custom. There continues to he a surfeit of cold storage stock, with the market for the ordinary run of offerings dull and weak at 17@20c.

California, select, large white and fresh	43	@	—
California, select, irregular color & size	35	@	40
California, good to choice store	26	@	30
Eastern, as to section and grading	20	@	26
Eastern, cold storage	17	@	20

Vegetables.

The display of most kinds is light, as is to be expected with such stormy weather as has been lately prevailing. Many of the Green Peas, String and Lima Beans showed mold. Tomatoes were mostly over-ripe and on this account dragged at low prices. Onions of select quality were in light supply and market was firm at the quotations. Most other vegetables in good condition were favored with a firm market.

Beans, String, ₱ lb	5@		6
Beans, Lima, ₱ lb	4@		6
Cabbage, choice garden, ₱ 100	50@		60
Cauliflower, ₱ doz	50@		—
Cucumbers, Alameda, ₱ large box	50@		75
Egg Plant, ₱ box	40@		75
Garlic, new, ₱ lb	3½@		5
Mushrooms, Buttons, ₱ lb	15@		—
Mushrooms, wild, ₱ box	5@		10
Okra, Green, ₱ box	1 25@	1	50
Onions, Yellow, good to choice, cental	80@	1	00
Peas, Sweet, Garden, ₱ lb	5@		6
Peppers, Green Chile, ₱ box	35@		60
Peppers, Bell, ₱ large box	50@		85
Squash, Marrowfat, ₱ ton	8 00@	12	00
Squash, Summer, ₱ box	1 00@	1	25
Tomatoes, River, ₱ box	10@		40
Tomatoes, Bay, ₱ box	40@		65

Potatoes.

Although there were no particularly heavy arrivals of potatoes from any point, there was more common stock than could he placed. A large quantity had to be moved from wharf into warehouse and store for lack of custom. Choice Burbanks were not in excessive supply and such met with a firm market. Sweets were offered in sufficient quantity for all immediate needs and market ruled easy.

Burbanks, River, ₱ cental	60	@	80
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	70	@	1 10
Burbanks, Oregon	60	@	1 10
River Reds	50	@	70
Burbanks, Salinas, ₱ cental	1 00	@	1 25
Sweet River, ₱ cental	75	@	1 00
Sweet Merced	1 00	@	1 10

The Fruit Market.

Fresh Fruits.

Aside from a less extended display as to variety, which is invariably experienced at this time of year, the market for fruit quoted under this heading has shown little change since former review. Apples are in fair supply, all grades included, hut if only strictly choice to select qualities are considered, the showing is light. A thoroughly sound apple of favorite variety is more readily salable at extreme quotation than is scrubby and wormy fruit at lowest figure noted. A large percentage of otherwise fine Apples shows moth or worm blemish and this naturally seriously affects values. A reduction in the price of 50c or more per hox is not uncommon on account of insect ravages. Apples go at 65@75c per hox which would bring $1.25 if they did not show fruit pest. For the best fruit $1.25 per box is a quotable extreme, although in occasional instances a moderate advance on this figure is realized, mainly in a small way for selections for shipment. Pears are going at generally unchanged rates, with the firmness of the market confined wholly to choice table fruit. Cooking Pears are not eagerly sought after and are wanted only at modest figures. Persimmons move in slow fashion at same range of values established for a fortnight or more past, although most of this fruit is now at its best as regards palatableness. Pomegranates are without improvement, either in the matter of demand or values. Offerings of Grapes show marked reduction and present stocks are largely out of cold storage. For the comparatively few Grapes which are in first-class condition the market is firm. Strawberries were in fair receipt, considering the generally unfavorable weather, and brought better average prices than for some weeks preceding. Cranberries are in sufficient stock for holiday needs, the Oregon product selling at $1.50@2 00 per bushel box, and Eastern ranging from $7@10 per barrel.

Apples, fancy, 4-tier box	1 00@	1	25
Apples, good to choice, ₱ 50-lb. box	75@		90
Apples, Green, common to fair, ₱ 50-lb. box	35@		60
Grapes, Black, ₱ crate	60@		90
Grapes, Muscat, ₱ crate	60@		90
Grapes, Tokay, ₱ box, 50@75c; ₱ crate	65@	1	00
Grapes, Cornichon, ₱ crate	65@	1	00
Pears, Winter Nelis, ₱ box	75@	1	25
Pears, cooking varieties, ₱ box	50@		75
Persimmons, ₱ box	50@	1	00
Plums, ₱ box	50@		75
Pomegranates, ₱ box	50@		75
Quinces, ₱ box	—@		—
Raspberries, ₱ chest	—@		—
Strawberries, Longworth, ₱ chest	10 00@	11	00
Strawberries, Large, ₱ chest	4 00@	5	00
Whortleberries, ₱ lb	5@		7

Dried Fruits.

The market for cured and evaporated fruits is quiet, as is to he expected at this time of year, but is showing in the main exceedingly healthy condition. Aside from a limited number of Peaches unpeeled, a moderate amount of Figs, and a large portion of the Prune crop, probably half, there are virtually no other offerings outside the hands of jobbers. In the matter of values there are few changes in quotable rates, and with the single exception of Figs, the alterations in quotations are to higher levels. Peaches are being very steadily held, and dealers are confident that there will he demand sufficient to absorb remaining supplies before the season ends. Asking rates for pressed Figs have been reduced half a cent to a cent, as stocks are not cleaning up as well as was anticipated; there is a general desire to dispose of holdings as early as possible, as it would he phenomenal to have other than slow trade in this fruit after the holidays. Values for Apples continue to be well maintained. Apricots and Pears are obtainable only in small quantities from second hands and wholesale quotations for them at present are wholly nominal. In Prunes there is some business doing, hut it is decidedly light as compared with the volume of offerings. Quotable rates remain as previously noted, with market easy in tone for medium and large sizes. As the cured Prune is a favorite winter fruit, and as the most severe winter weather in the East and North will not he experienced until after the holidays, there is good reason to anticipate more activity in this line in the next sixty or ninety days, present holdings in the hands of the wholesale and jobbing trade being of rather light proportions.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½@		12½
Apricots, Royal, fancy	12½@		13½
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½@		8
Apples, 50-lb. boxes, rings, pressed, good to choice	7	@	7½
Figs, White, fancy pressed	7½@		8½
Peaches, unpeeled, good to choice	5½@		6½
Peaches, unpeeled, fancy	7½@		8½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7½@		8½
Plums, Black, pitted	7½@		8½
Plums, White and Red, pitted	8	@	10
Prunes, in sacks, 40—50's	4	@	4½
50—60's	3½@		3¾
60—70's	3¼@		3½
70—80's	3	@	3¼
80—90's	2¾@		2¾
90—100's	2	@	2½
110—130's	—@		—

Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	2¾@		3
4 sizes San Joaquin and Northern	2¼@		2½
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4½@		5½
Apples, quartered	4½@		5½
Figs, Black	6	@	6½
Figs, White	—@		—
Peaches, unpeeled	—@		—

Advices by mail of recent date from New York City furnish the following review of the dried fruit market:

Spot offerings of evaporated apples have not been excessive but holders have urged sales from primary sections and the market has weakened further in price though at the close tone is a shade stronger for spot goods and prime difficult to find under 7¾@7¾c though some wire-dried have sold a fraction lower. Some export business has been passing and at a little lower price exporters would doubtless take considerable stock. Choice are jobbing from 7¾@8½c, latter a little high though fancy which are scarce sell up to 8½@9c. Sun dried apples are in moderate supply and firm; probably little stock could be found under 5c and scarcely anything grades high enough to reach outside quotations. Small fruit scarce, in few hands, and very firm with raspberries and cherries showing an advance. California fruit continues to meet a good jobbing demand at late prices.

Apricots, Cal. Moorpark, 1899, per lb	15	@	17½
Apricots, Cal. Royal, 1899, per lb	13	@	14
Peaches, Cal., 1899, unpeeled, in boxs. lb.	8½	@	9½
Peaches, Cal., 1899, unpeeled, in bags, lb.	8	@	9
Prunes, Cal., 1899, per lb	3½	@	7½

Raisins.

While quotable rates for raisins are unchanged, the market is decidedly strong and gives every promise of remaining so during the balance of the season. Clusters and high-grade layers are so scarce as to he hardly quotable. Stocks of standard loose Muscatels are of very slim proportions. Supplies of Thompson Seedless and Sultanas out of the hands of jobbers are practically exhausted. During remainder of current season buyers will have to content themselves mainly with the cheaper grades of loose Muscatels, and latter are not in heavy stock.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ₱ box	$3 00	@	—
Do do 5-crown, ₱ box	2 50	@	—
Do do 4-crown, ₱ box	2 00	@	—
Do do 3 crown, ₱ box	1 60	@	—
Do do 2-crown, ₱ box	1 50	@	—
Valencia layers, ₱ 20-lb box	80@	1	00

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ₱ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, seedless	5	@	—

Pacifics.—2-crown loose Muscatel, 5¼c; 3-crown, 6c; 4-crown, 6½c; seedless, 4¾c.

Orientals.—2-crown loose Muscatel, 4¾c; 3-crown, 5½c; 4-crown, 6c.

(Above prices for loose raisins are for 50-lb. boxes.)

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ₱ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ₱ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Oranges were never offered more freely in this market in November, but in all probability shippers would have fared better if they had delayed picking most of this fruit, as it is the exception where offerings are sufficiently ripe. Quotations show a reduction and market is not firm at the decline. The Lemon market remains slow and weak, with stocks very liberal. Limes remain plentiful and market is easy in tone. Grape Fruit drags at previous range of prices.

Oranges—Navels, ₱ box	2 50@	3	50
Cal. Seedlings	1 50@	2	25
Cal. Tangerine, ₱ box	—@		—
Grape fruit, ₱ box	1 50@	3	00
Lemons—Cal., select, ₱ box	3 00@	3	50
Cal., good to choice	2 00@	2	50
Cal., common to fair	75@	1	50
Limes—Mexican, ₱ box	4 00@	4	50
Cal., small box	75@	1	25

Nuts.

Almonds are not offering in heavy quantity, hut demand is slow and market lacks firmness, most jobbers having all they care to carry. Walnuts are in light stock and mostly in second hands, with market firm for prime to choice qualities. There is a large percentage this season of No. 2 nuts, the kernels being shrivelled. Peanuts are commanding steady rates, under light offerings.

California Almonds, shelled	22½@		26
California Almonds, paper shell, ₱ lb	11	@	12
California Almonds, soft shell	10	@	11
California Almonds, hard shell	6½@		7½
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	11	@	11½
Wainuts White, Cal., standard	9½@		10½
Chestnuts, Cal. Italian	10	@	12½
Peanuts, Cal., fair to prime	4½@		5½
Peanuts, Eastern hand-picked	6	@	7½
Pine Nuts	5	@	6

Wine.

In the way of wholesale business in new wines, there is virtually nothing doing, and will not he for a month or more, consequently there is nothing at present upon which to base quotations. Values for claret from one to three years old remain quotable at 15@20c. per gallon, as to quality, San Francisco delivery. Last Saturday's Panama steamer carried 26,700 gallons wine, destined mainly for New York. The shipments of wine from this port by sea in Oct., 1899, were 433,410 gallons and 400 cases, value $132,300; in Oct., 1898, 456,115 gallons and 485 cases, value $168,100; for the ten months ended Oct. 31, 1899, 3,103,000 gallons and 6,000 cases, value $1,015,700; for corresponding period in 1898, 4,007,700 gallons and 6,890 cases, value $1,505,850.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the Pacific Rural Press to have its quotations represent as nearly as possible the existing values. It should he remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to he sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	149,263	2,131,533	1,913,914
Wheat, ctls	122,641	1,694,016	1,241,426
Barley, ctls	184,278	3,219,578	664,068
Oats, ctls	21,682	409,691	388,835
Corn ctls	2,275	47,245	73,810
Rye, ctls	....	76,587	13,780
Beans, sks	15,816	232,183	243,430
Potatoes, sks	31,537	505,396	479,669
Onions, sks	2,426	94,352	96,741
Hay, tons	2,409	79,860	71,600
Wool, bales	1,306	32,503	25,996
Hops, bales	101	5,816	9,030

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	33,340	1,179,619	1,195,596
Wheat, ctls	151,061	1,394,569	581,833
Barley, ctls	128,636	2,406,312	181,883
Oats, ctls	2,039	21,694	11,189
Corn, ctls	410	6,993	7,961
Beans, sks	437	9,789	60,580
Hay, bales	3,680	44,826	25,907
Wool, lbs	106,090	2,136,660	954,918
Hops, lbs	280	443,096	801,530
Honey, cases	66	2,505	4,000
Potatoes, pkgs	1,541	28,286	21,492

California Dried Fruit at New York

New York, Nov. 22.—California dried fruits; Market quiet and steady. Evaporated apples, common, 6@7c; prime wire tray, 7¼@8c; choice, 8¼@8½c; fancy, 8½@9c.

Prunes, 3½@8½c.

Apricots, Royal, 13@15c; Moorpark, 15@18c.

Peaches unpeeled, 7½@10c; peeled, 20@22c.

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Our U. S. and Foreign Patent Agency presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports, with full copies of U. S. Patents since 1872. All worthy inventions patented through Dewey, Strong & Co.'s Patent Agency will have the benefit of a description in the *Mining and Scientific Press*. We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We can give the best and *most reliable* advice as to the patentability of new inventions. Our prices are as low as any first-class agencies in the Eastern States, while our advantages for Pacific Coast inventors are far superior. Advice and circulars free.
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330 Market Street, San Francisco, Cal.

A Railroad to the Klondike.

When the big "rush" to the Klondike took place two years ago the attendant horrors of the Chilcoot pass and the extraordinary cost of transportation made it manifest that the kind of men who made railroads before wagon roads in other mining regions would not long wait upon the difficulties in getting toward the new El Dorado, but would throw them aside. Accordingly a wire rope tramway was built, and that in turn superseded by a railway, now in daily operation between Skaguay and Bennett, a distance of forty-one miles. The engravings on this page illustrate the general appearance of the country through which passes the White Pass & Yukon route, though the scenes herewith presented could be duplicated in California, Colorado, Utah, or Montana. Under date of October 10th the traffic manager writes: "We have now a large number of men constructing the road from Bennett to White Horse, a distance of 110 miles from Skaguay, and we have every reason to believe we will be operating trains over the second division by June 10th, 1900. Upon the completion of our tracks to Lower White Horse by June 10th, and after the opening of navigation of the rivers, the schedule time from Puget Sound and British Columbia ports to Dawson will no doubt be about eight days."



LOOKING UP THE EAST FORK OF THE SKAGUAY RIVER—WHITE PASS & YUKON ROUTE

Raisin Shipments.

Raisin shipments during the past month have gone forward at a pace which brings the aggregate up to within less than 100 cars of the total shipments to the corresponding date of last year. When it is considered that the grape picking this season began nearly three weeks later than last year, and that the weather has from the beginning been unfavorable, the sales and shipments of this season's crop are remarkable. No other interpretation can be put upon these conditions than that the trade felt such perfect confidence in the integrity of the California Raisin Growers' Association to grade the raisin product up to uniform standards, and in the ability of the Association to establish and maintain prices in view of its control of the crop and the manner in which the markets were handled last season, that orders were placed early and with a freedom unprecedented. Last year at this date there were shipped out by the Raisin Growers' Association 1658 cars. The total shipments up to November 14, this season, aggregate 1566 ten-ton cars. For the month prior to November 14—Sundays excepted—1025 cars, or 20,500,000 pounds of this season's raisins were shipped out.

The greatest number of cars shipped in a single day, since October 14, was on the 25th of that month, when seventy-four cars were sent forward to Eastern points. The least number of cars shipped in a single day was on November 11, when twenty-one cars were shipped. The daily shipments for the past month have averaged thirty-eight cars. The total raisin pack of last year controlled by the Association amounted to 61,880,000 pounds or 3490 ten-ton cars, of which 40,000,000 pounds were shipped out by December 1. The estimated crop of 1899 is 2300 cars of ten tons each.



ON THE WAY FROM SKAGUAY, ALASKA, TO LAKE BENNETT, B. C.—WHITE PASS & YUKON ROUTE.

NEW 20TH CENTURY CREAM SEPARATORS



Sept. 1st marked the introduction of the Improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators and these newest "Alpha" disc machines are simply unapproachable by anything else in the shape of a cream separator. Overwhelming as has been the conceded superiority of the De Laval machines heretofore their standard is now raised still higher and they are more than ever placed *in a class by themselves* as regards all possible competition.

Send for new catalogue.

THE DE LAVAL SEPARATOR CO.

RANDOLPH & CANAL STS., CHICAGO | 74 CORTLANOT STREET NEW YORK.

Silkworms in China.

In reply to a California correspondent the interpreter for the consulate general at Shanghai, Mr. Barchet, on August 30, 1899, writes:

The domesticated silkworm (*Bombyx mori*) is extensively reared in the provinces of Chekiang, Keang-su, Szechuan and Shantung, and to a small extent in Hu-peh, Keang-si and Honan.

The silk industry is carried on profitably in Chekiang and Keang-su, where soil and climate are adapted to the silkworm, though even in these provinces there are localities where the silkworm does not thrive and the cocoons do not attain the size or weight they have in Ningpo, Shao-hying, Hang-chow, Hu-chow and Wusich—regions that are famous for their silk.

The cause of this difference is hard to explain, as the careful selection of eggs, the food, the climate and treatment are to all appearance the same.

Mulberry leaves form the staple food for the silkworm, and only when the supply gives out are the leaves of *Cudrania iriloba* resorted to, which the silkworms will eat, but not greedily; and the silk produced is inferior in quality to that from worms fed on mulberry leaves.

Though the domesticated silkworm is liable to disease, the Chinese variety is worthy of repeated trials, as it is fairly hardy when raised from healthy eggs and is decidedly superior to that of India or Japan; but sound and well-selected eggs are of paramount importance to success in such an industry. It would pay to have the eggs examined microscopically by an expert to insure that none but healthy ones be hatched. It would also be well to secure eggs from different localities (Chekiang, Keang-su and other provinces) to find out which will thrive best under new conditions.

The silkworm of China and Japan is larger and is said to yield a greater amount of silk; but this is coarse and yellowish in color, for which reason it only commands two-thirds the price of ordinary silk.

If eggs of the wild silkworm are wanted for experiment, they can probably be procured by applying to the United States consuls at Chefoo, Shantung, or at Chungking, Szechuan (the home of the wild silkworm).

Eggs from the domesticated silkworm in the silk districts of mid-China may, as an accommodation, be procured through the consulate general at Shanghai, provided the order is not for large quantities.

DUBLIN, Neb., May 18, 1891.

Dr. S. A. Tuttle.

Dear Sir:—This is to certify that I was troubled with chronic diarrhœa for over four years. Did not do any work. Had to rent my farm last spring. I took family and went to Vermont, my former home, hoping the change of climate would help me. It did not help me; I was worse than ever. About the first of November, being urged to use your Elixir, by Albert Boardman of Wolcott, Vt., I did so, after trying everything else and everybody's remedies and treatment of skilled physicians, and in one week's time I felt so well I did a good week's work carpentering. I have continued to improve, and I have not taken but one-half dozen bottles. I do not have to take it now. I have followed the plow for eighty acres of land this spring. Have sold nearly eighteen dozen bottles of Elixir, also introduced your Worm and Condition Powders, Hoof Ointment and White Star. They all do more than claimed for them. This is my testimony of the power of your medicines. Yours very truly,

J. E. CLEVELAND.

The Banner Bee County.

TO THE EDITOR:—In your paper of Sept. 30th appeared an extract from the Yuba City (Sutter county) *Independent*, in which it was stated that Sutter was the banner bee county of the State, having 1600 stands of bees, and shipping more honey to San Francisco than any other county. While not wishing to detract from the glory of Sutter county, I desire to state that the item mentioned was written with insufficient information. Josiah Gregg, inspector of apiaries in Tulare county, informs me that there are 12,000 stands of bees in this county, and that eleven carloads of honey have been shipped this year from Visalia, Tulare City and other points in Tulare county. Tulare may not be the banner bee county of California, but, if not, it would gratify the curiosity of many to know which county is entitled to that distinction.

H. G. P.

Visalia.

[It was certainly a mistake to award the banner on the possession of such a stand of bees. The banner belongs somewhere in southern California, though owing to the upsetting of the business by two dry years we do not know which county is now at the head. The San Joaquin valley counties are both entitled to great credit for recent rapid advance in beekeeping.—ED.]

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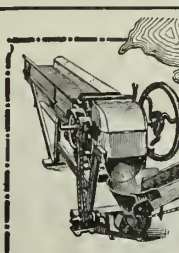
I. L. BURTON MACHINE WORKS, 115-117 First St., San Francisco, Cal., will give full particulars and furnish estimates of pumps run with gasoline or steam engines. Horse powers or windmills—complete plants. Closing out stock of second-hand gasoline engines, 1 to 20 H. P.

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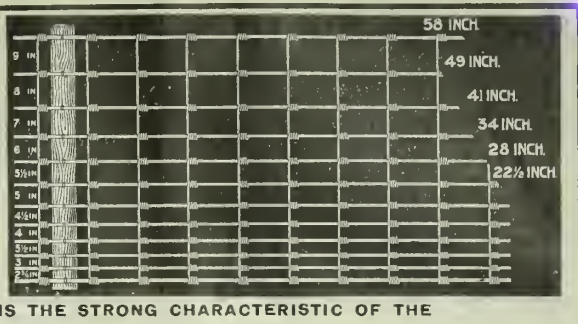
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The expense of feeding a profitable cow is no more than the cost of feeding an unprofitable one.

It costs comparatively nothing to find out whether each member of the herd is profitable. The

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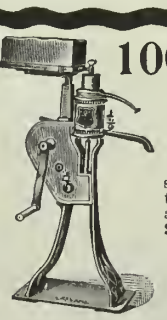


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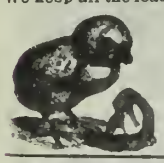
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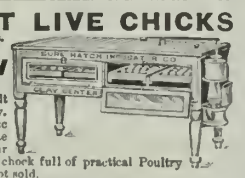


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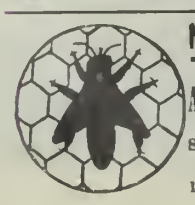
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Patrons of Husbandry.

Tulare Grange.

TO THE EDITOR:—The Tulare Grange held an interesting session on Saturday. After the transaction of routine business and after participation and enjoyment of an excellent lunch, provided by the sisters, and under the head of new business, the secretary read a letter from the Chief of the Division of Forestry, acknowledging receipt of Tulare Grange resolutions on appropriation for survey and care of our forests. The secretary also read a communication from G. W. Worthen, Worthy Master of the State Grange of California, which he calls "A Talk to Farmers." [This has already been published in the PACIFC RURAL PRESS. —ED.]

In a social and conversational way the Grange discussed the subject of irrigation, its great importance and absolute necessity to the farmers of this valley; also the conservation and storage of flood and waste waters and their proper distribution. On the subject of storage of flood waters the opinion seems to prevail amongst the members that between Kings river and the Tehachapi there are no locations for storage of flood waters, where waters can be stored in such quantities as to be at all adequate to the cost of storage. Nevertheless, Tulare Grange favors a full, deliberate and careful consideration of the whole subject, and appointed a committee to embody the views of the Grange on this very important matter.

The conversational manner in which the Grange discussed the subject brought up a reference to the late decision of Judge Wallace granting a new trial to the Pioneer Water Co. in the suit of the Hubbs & Miner Ditch Co. vs. the Pioneer Water Co., and which, it is considered, will have a far-reaching effect in the distribution of water for irrigation purposes, if the ruling of Judge Wallace is sustained by the Supreme Court. If the members of the Grange understand Judge Wallace's decision aright, he holds that an appropriation of water shall be the amount measured at a point in the ditch where is its smallest carrying capacity, and that should 100 feet per second be appropriated, and for a reasonable period of time only one foot is used, subsequent appropriators are entitled to the rest, and that the amount used may be determined by ascertaining the acreage irrigated, and the amount of water usage and custom has or may determine is sufficient for the acreage.

J. T.

Tulare, Cal.

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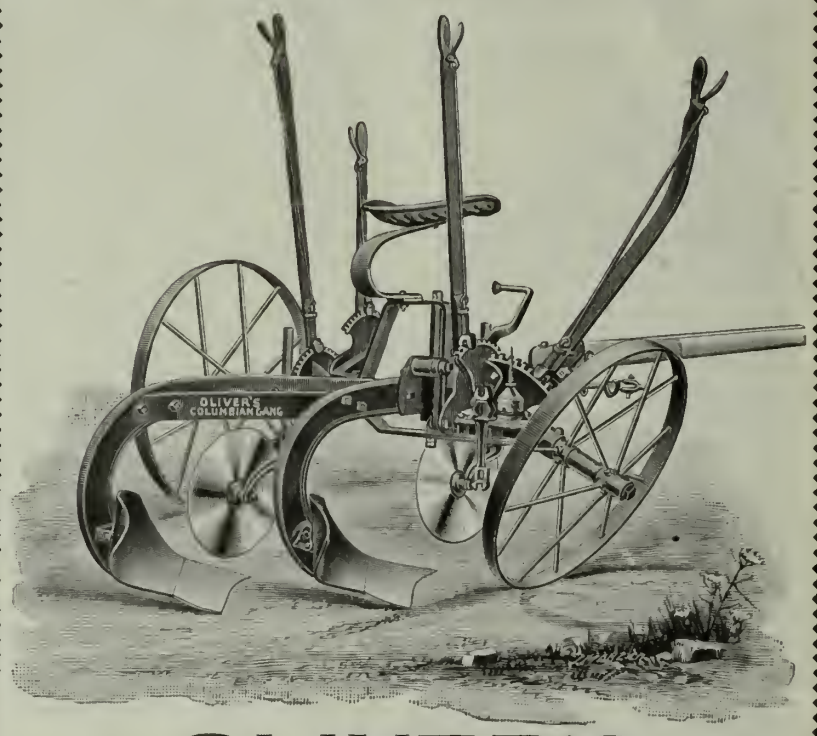
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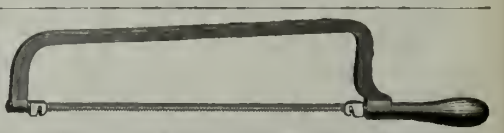
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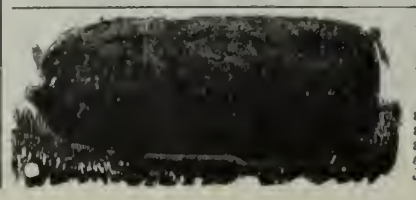
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330 Market Street, San Francisco, Cal.

THE VETERINARIAN.

Answers by Dr. Creely.

Eye Trouble With Cows.

TO THE EDITOR:—My cows are having trouble with their eyes. One eye will swell and stay swollen for at least a week, and then it goes down and leaves a white spot on the eye, about the size of a pea. About the time one eye goes down the other one swells and acts the same. There is only about one animal afflicted at a time. They seem to be partially blind.—SUBSCRIBER, Salida, Cal.

It is contagious opthalmia. Bathe the affected eye several times daily with warm borax water and inject the following: Zinc sulphate, six grains; pulv. alum, twenty-four grains; atropia sulphate, ten grains; rose water, two ounces.

Mix and inject into the eye several times daily. It is advisable to keep them out of the wind and in a dark stable.

Treatment for Horse and Hound.

TO THE EDITOR:—Will you piease give me a remedy for my horse, whose condition I will describe to my best ability? About a year ago I fed him on clover and Timothy hay, which happened to be a little musty, and ever since he has a very bad cough. Can I do anything to relieve him; it is a very valuable animal.

I also have a deerhound which has sores between his hind iegs on belly, about eight inches long and same width. It looks like a sore pretty near healed up and appears to be very itchy. He has had it quite a while. It makes him very uneasy—waking from sleep, kicking and barking, then sleep for a while and do it over again. It is spreading, and as it spreads the skin turns almost black. Please let me know what to do.—ROBERT MCINTOSH, Orick, Humboldt County.

Feed the horse well dusted moist hay and give the following powders: Pulv. gum camphor, one-half ounce; pulv. licorice root, three ounces; pulv. belladonna leaves, one-half ounce; pulv. nux vomica three-fourths ounce.

Mix and make twelve powders and give two daily. Feed no hay in the morning. When the powders are gone report to me.

Wash the sores on the dog with Castile soap, and every fourth day apply strong tincture of iodine. Prevent him from licking the iodine.

A Degenerated Gland.

TO THE EDITOR:—I bought a cow a few days ago and discover that she has a lump in her throat, close to the roots of her tongue, larger than a man's fist. It seems to hurt her when one touches it, and is larger than when I first noticed it. One man says he thinks it is a foxtail in her throat. What do you think it might he, and if it is foxtail what can I do for it? Can it be cured?—A SUBSCRIBER, Jamestown.

It is a degenerated gland. Poultice for a few days, after which lance and inject two times daily a 10% solution of carbolic acid.

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Hall's Family Pills are the best.

—The Manila hemp held by Americans has been profitable. In '98 the price of this product of new American possessions in the Philippines was between 6 and 7 cents a pound. When the war between Spain and the United States broke out there was a fair supply of the fiber in the United States and a large supply on the way to the United States. After Dewey's blockade the price went up, but ships laden with the fiber for the United States were allowed to sail. When this limited supply was exhausted there was a total cessation of supply, not only in the work of the blockade, but in the interference with the supply for export by the armies working in the interior. The price of fiber has increased gradually until it is now about three times what it was at the outbreak of the war, and the prospect is that it will go considerably higher. Substitutes in the Manila hemp line are not numerous. The substitute in general use at the present time is the sisal or Yucatan hemp. It is not so good as the Manila article, lacking nearly all of the strength and fineness of the latter, but does for binding twine and similar purposes. Even this substitute has advanced in price, selling now for about 9 cents a pound. There is no reason why this should be the case except the natural sympathy of this product with the hemp market and the increased demand for it by reason of the decline in the use of hemp. The supply of the Yucatan article is ample, and there has been no interference with getting it to market. There is also an American hemp which is used to a considerable degree in the manufacture of binding twine. It gives fair satisfaction. It is the common belief of people generally that jute is also used for this purpose, but there seems to be no confirmation of this belief from the cordage people.

California Orange Grader.

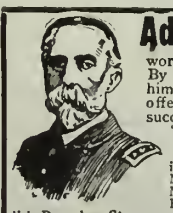
The manufacturers of these graders say that the season has opened up with good sales and the reports from the orange sections are that the California grader is accurate and satisfactory in all respects. It grades ten sizes and is adjustable to any sizes of oranges or lemons. These graders are manufactured by the Pacific Mercantile Co., No. 308 Market street, San Francisco, Cal. *

THE Sure Hatch Incubator Company of Clay Center, Nebraska, have not been in the incubator business as long as some others, but the high quality of their machines is vouched for by testimonials received. It is generally supposed that a man or a machine is most successful away from home. If home success is a recommendation, then the Sure Hatch people have many reasons for congratulation. *

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—The Pacific Improvement Co. is winding up its affairs. Its true history would be interesting.

—Oregon has sent 700,000 bushels of wheat since July 1st, '99, to Algoa bay, South Africa.



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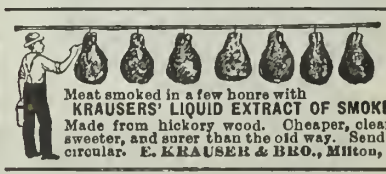
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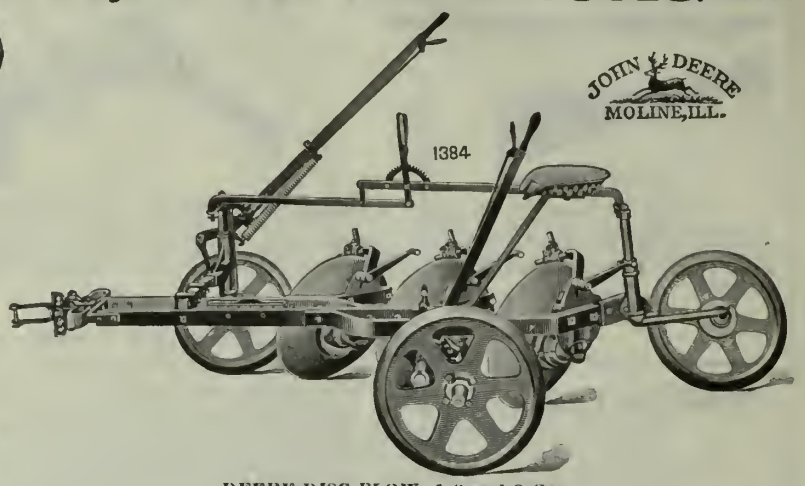
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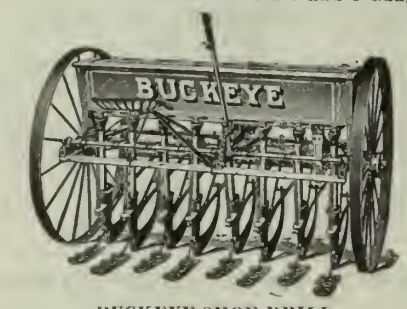
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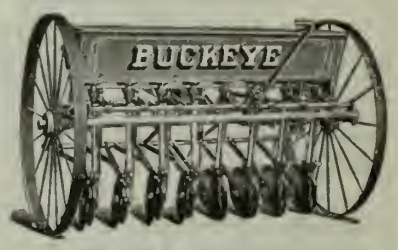
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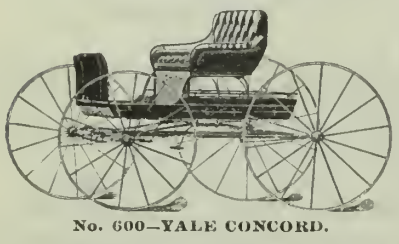
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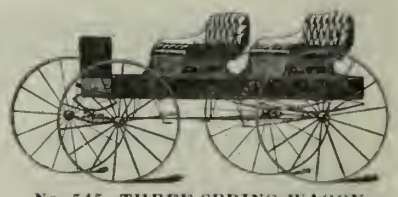
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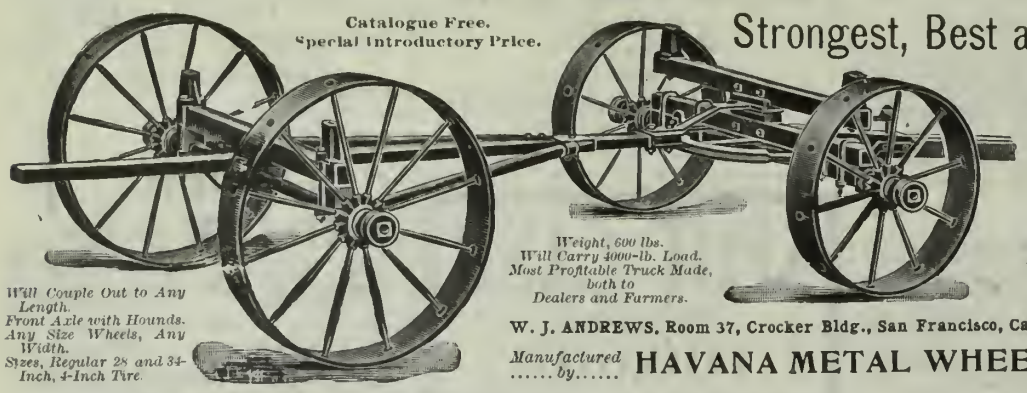
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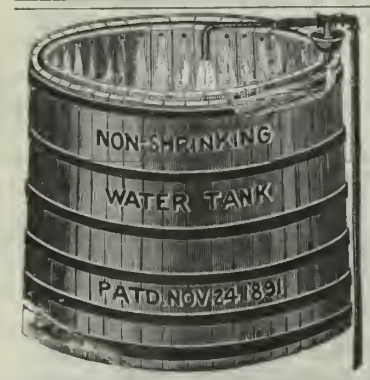
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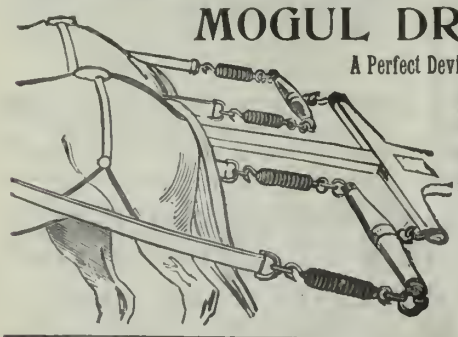
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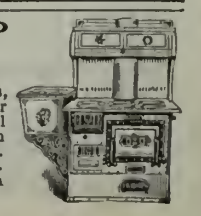
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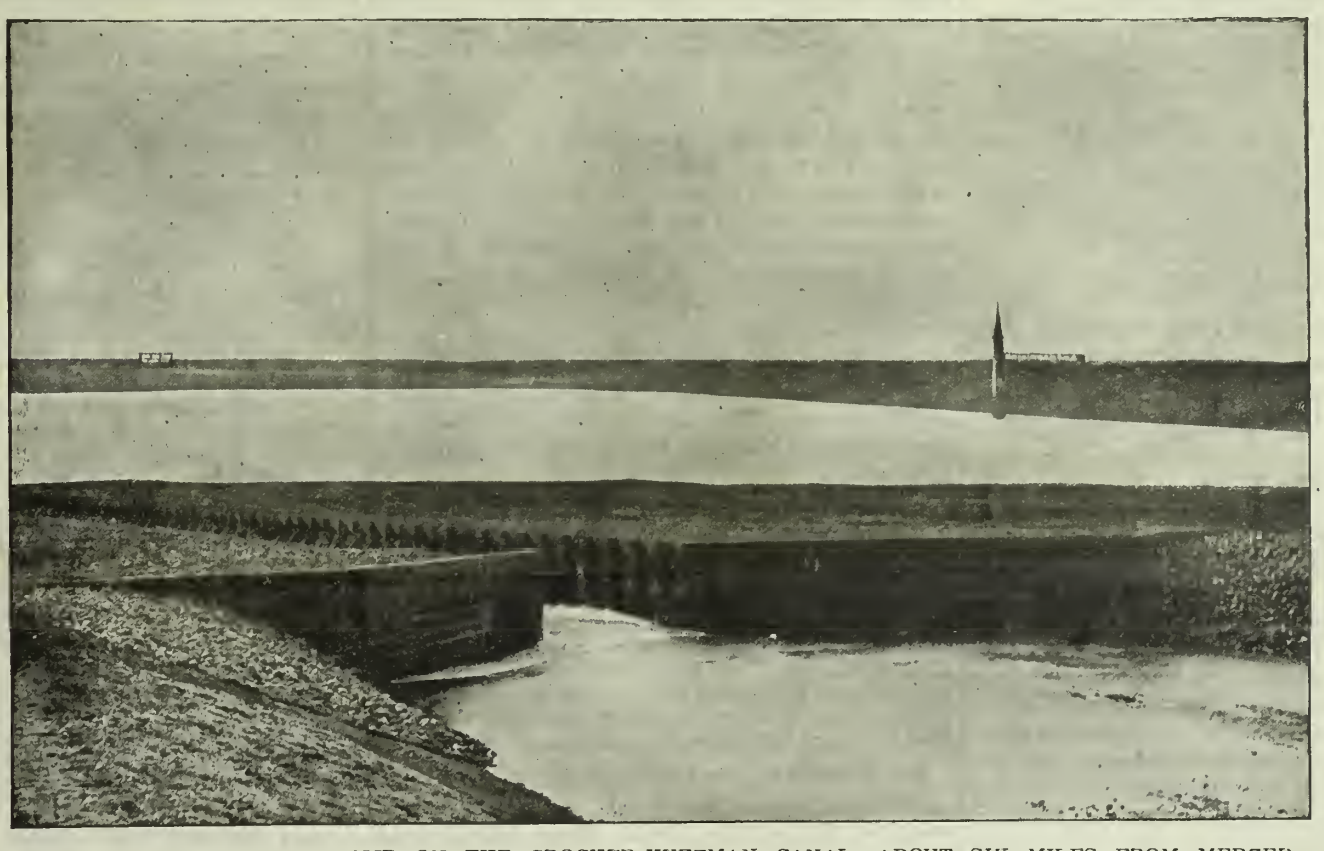
THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 23 SAN FRANCISCO, SATURDAY, DECEMBER 2, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Irrigation Works in the San Joaquin.

We have upon this page another group of views illustrating irrigation works in the San Joaquin valley. They were taken to illustrate a recent bulletin by the U. S. Geological Survey, prepared by C. E. Grunsky to show some phases of irrigation development in the central region of the State. The leading view shows one of the largest distribution reservoirs in the State. The Crocker - Huffman canal enterprise is both for irrigation and town supply, and its reservoir is many miles from its source of supply in the Merced river. We have in previous issues shown the course of the water by ditch and tunnel through this long distance and complete the account now with a view of the reservoir. Its primary purpose is to afford a reliable supply of water to the city of Merced, lying about six miles farther to the southwest. This reservoir has a surface area of about 600 acres. It lies between two low foothill spurs, the gap between which was closed by means of an earth dam having a crest length of 2200 feet and a maximum height of 50 feet. The dam rests on a very firm foundation of cemented gravel, into which a wide, deep puddle trench was cut. Much of the material of which it is constructed had to be loosened by blasting. All material was wet when put into place, and was firmly trampled by horses. There was enough clay in the material used throughout the structure to make it a very compact bank. A masonry conduit, brick laid in cement mortar, has been carried through the natural foundation under the dam, and in this the delivery pipe and the sluice pipe have been placed. The main canal is continued southward, or rather southeastward, from the reservoir on a continuation of the grade line entering the reservoir from the north. This arrangement cuts the canal extension out of a supply when the reservoir is not full. Water was turned into the reservoir through the completed main canal on February 1, 1888. The view shows in the foreground the inlet of the canal into the reservoir, while away to the right is the water tower, enclosing exits into the pipe line to Merced city. Those who pass Merced on the railway and see the fountain playing in the station park can count the display as part of the system, for the water comes from the reservoir shown in the view. Through these arrangements the city of Merced has exceptional water supply, and the surrounding country an ample irrigation system whenever conditions call for its full employment. Some mistakes in adaptation of lands to crops and disappointments resulting therefrom, coupled with the general dullness of the last few years, has retarded the development of the region, but it will have a large place in the future of the valley.

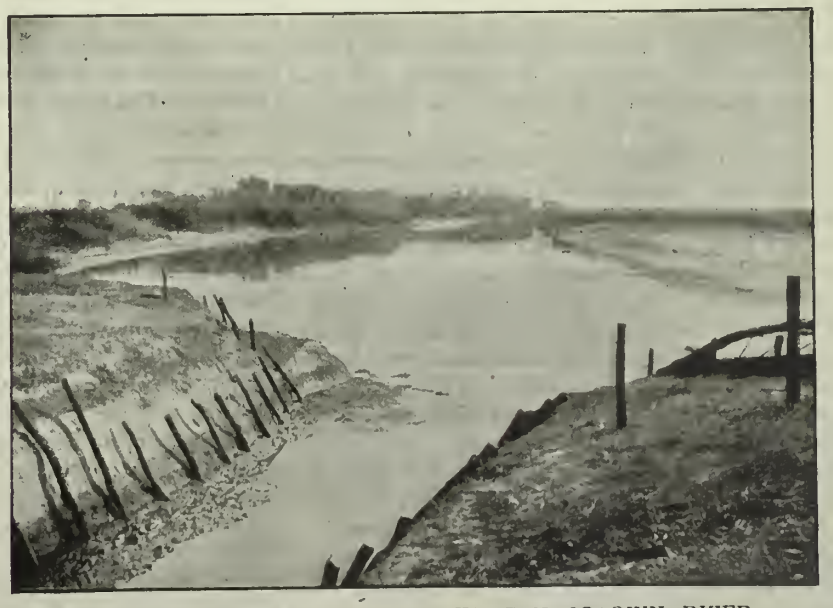


INLET TO MERCED RESERVOIR ON THE CROCKER-HUFFMAN CANAL, ABOUT SIX MILES FROM MERCED.

Other pictures on this page show features of the Blyth canal enterprise. This is an East Side canal from San Joaquin river, the head of which is some miles below Las Juntas. The canal is cut boldly into the river bank, with a bottom width of 20 feet. It receives water from the river only at high stages. Its flow is controlled by a well-constructed regulator or head gate of the culvert type. It supports a 5 foot fill of earth, which serves as a roadway across the canal. The entrance to the culvert is divided into five 4-foot spaces by vertical posts, which afford support to vertically sliding flashboards, 3x12 inches, raised by means of two double hooks engaging on iron pins, to which power is applied by a winch. The Blyth canal is a great pasturage proposition. It takes water when it is in excess and floods an immense area. The canal discharges into the East Side flat valley trough, where its flow is intercepted by a series of cross levees, each extending from comparatively high ground at the river eastward across the depression. These cross levees, five or six in all, are about a mile apart and are all equipped with stop gates.



NINE-FOOT CUT ON THE COURSE OF THE BLYTH CANAL.



HEAD OF BLYTH CANAL AT THE SAN JOAQUIN RIVER.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, December 2, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Mildness, moisture and resulting lush growth of vegetation are still the chief characters of the advancing autumn. If this continues we shall have by Christmas a growth of grass and flowers worthy of April. It would be hard to imagine a sharper contrast between this season and those immediately preceding up to this date—nor a contrast which pleases people more profoundly. Even such a peculiar people as the professional fungologists are beside themselves. They have gathered more species of cryptogams than so early in any recent year, and the mushroom eaters are also waxing large with the abundance of their favorite pabulum. All this and things like unto it in trade and production are fitting all people for Thanksgiving on Thursday, and to give our staff an opportunity to revel in the delights of the occasion, we are closing our forms one day earlier than usual this week. Let all rejoice and give thanks.

Wheat is being pressed down by the bears with all their art and strength in the effort to get good shipping grain at less than 1 cent. Holders do not yield freely, however, and there is little being done except in a speculative way. Barley is rather weak, but not lower. It seems hard to get proper shipping grades; there is too much of the common sort. Oats are firm, with but a small offering of the better grades. Meats are unchanged, except that veal is high this week. There are large supplies of turkeys, but many of lower grades. Prices are, however, better than usual all around, and the demand promises to clear them all out. Butter is higher, with a brisk holiday demand. Fancy fresh eggs are arriving a little more freely and are easier. Fresh vegetables, string beans, peas, egg plant, etc., are selling well. Dry beans are strong, with an advance in Bayos. Potatoes and onions are going freely to Manila and onions are higher. Oranges are still under-ripe and too many of that kind offering. The best apples are firm. Dried fruit is slow, as early purchases at the East are not yet disposed of. Wool is strong and active and shipments heavy. Orders for scoured wool are a month ahead of the scourers.

THE paper by Dr. Kellogg of Lakeport on bovine tuberculosis, on another page, presents very important considerations which all should know about. It is our opinion, however, that one is apt to get an extreme view of the responsibility of the cow in spreading the disease. Even if the introduction to new regions may be by the cow route as claimed, we believe there are far more potent agencies in its distribution afterwards. Still it is important to reduce the disease among cattle and fortunately there are rational ways of securing this, as have been frequently outlined in our columns.

California Dried Fruits in Germany.

We have received from the State Department at Washington advance sheets of a forthcoming consular report conveying fresh information of the status of California dried fruits at Frankfort and Berlin. It strikes us as very significant of the fact that the United States Government has arrived at a correct understanding of its commercial function, that this information which seems to have been asked by a California editor on August 17 is secured and issued for the information of the interested public on November 17. Thus in just three months the State Department has interrogated its consuls, received their replies after due investigation on their part, and put the facts into print. This is more business-like than Government officers would have dared to be a few months ago. It used to be a byword for delay and red tape and fuss and feathers, but now the traditions have been abandoned and the Government is approaching the promptitude of commercial correspondence. As the boy would say: The Government is getting onto its job. Before long we shall find it beating even this commendable record for celerity.

There are a number of things in this official report which command prominent recital. First perhaps in wide importance is the general standing of California dried fruits in the German mind and markets. Consul-General Mason of Berlin uses this emphatic language:

In respect to dried apricots, pears and peaches, it may be said, once for all, that these fruits from the Pacific coast of the United States dominate and control the markets of continental Europe. Nothing comparable to them in point of size, flavor, tenderness of pulp and general excellence had ever been seen in Europe until they were imported from the United States. They have established wholly new standards of excellence and created a new market, which, if the trade is properly managed, they can hold in future against any probable competition.

This is about all we could ask for in the way of appreciation and prophecy. It is hardly less encouraging to find that Consul Mason holds that in prunes we have the call in all of the larger numbers—which means really the smaller numbers, or the fewer prunes to the pound. Up to 70 to the pound we are in command, but from 70 to 100, etc., the prunes of Bosnia will probably hold the advantage, because of their short haul and low freight, whenever they have a crop to sell. We have so often been told that we could not expect to compete in European markets with the French semi-cooked prunes that it is encouraging to be told by Mr. Mason: "The higher grades of California prunes are a revelation to the European consumers, being not only cheaper than French prunes of approximate quality, but of such excellence that they are sold in small, ready-made packages and eaten raw as sweetmeats, like candy or caramels." This is pretty good as against the old view that California sun-cured prunes could only do for stewing. It shows that mankind is much the same the world over, and that the superior fruity flavor of the California prune, which won the favor of the American people in comparison with the French, bids fair to win the same appreciation on the continent. We are, however, disposed to herald this victory with some moderation, because we still believe that the chief charm of the California prune is its high character when properly cooked. We have no objection to the Germans eating them as candy if they desire, but we are inclined to believe that a processed prune is more wholesome for that purpose. As a special comment upon dried pears, it is said that pears come to Germany in small, uncertain quantities from France and Italy, but not sufficiently to affect the prices of Californian pears, which make and control the market in that country.

Prices of California dried fruits in Germany are inordinately high this year, because it has been an unusually poor year for fruit crops in Europe. It is even stated that this year's prices for some fruits are nearly twice as high as last year. That, however, does not mean that even in good fruit years abroad we may not make a good profit in supplying them. It looks as though the further advertisement which our fruits are securing each year, both through the trade and by means of the great expositions, our high-grade fruits—which are acknowledged to be incomparable with the European dried product—will never be displaced from the higher class demand which they will enjoy. What this phase of the demand may be can be learned from the rates secured by our high-grade fruits at retail in a first-class store in Berlin:

	Cents per pound.
Apricots	19
Peaches	18
Pears (halves), unpeeled	14¼
Prunes, 30–40	14¼
Prunes, 40–50	12

A better measure of available value would probably be a list of wholesale prices, to jobbers only, at Frankfort, as given in the letter of Vice-Consul Hanauer, under date of Sept. 12 ult:

Packed in boxes, eight to 100 kilograms —	*Per 100 kilograms (220 pounds).*
Extra fancy Bartlett pears (half)	$28
Fancy Bartlett pears	27
Extra fancy California peaches	22
Fancy California peaches	21
Choice California peaches	20
Extra choice pitted plums	22
Extra fancy white nectarines	23
Fancy white nectarines	22
Extra choice Royal apricots	33
Extra fancy Royal apricots	31
Choice Royal apricots	28

Prune prices, rated according to grade, were as follows:

CALIFORNIA PRUNES IN 25-LB. BOXES, PER 100 KILOGRAMS.

Prunes in metric pound.	*Extra fancy.*	*Fancy.*	*Choice.*
40 to 50	$18 68	$18 08	$17 49
50 to 60	16 30	15 71	15 11
60 to 70	14 52	18 92	13 33
70 to 80	13 33	12 73	12 14
80 to 90	12 14	11 54	10 95
90 to 100	10 95	10 35	9 76

These figures are promising and if Congress would only go ahead with the Isthmus canal so we could land these goods at European ports at low rates there would hardly seem to be any limit to the amounts which the European people would eat with fair profit to our growers.

It ought hardly to be necessary to say that this apparently great opportunity can only be secured on the basis of straight goods. The consuls have sometimes to blush for their countrymen at some of the packages which are shown with a beautiful facing and indifferent lower strata. Cases of this kind are cited where well-known packers do this under their own individual brands. It is the plainest kind of commercial suicide. The consuls call for definite grading, with grade names, which uniformly represent the goods so that buyers will know what they are getting. This is a fair request and the sooner our dried fruit business passes into some such control as that which has given the raisin trade some character for truth and accuracy the better it will be for the fruit grower and for the State.

THE Farmers' Institute at Geyserville recently was an excellent illustration of the way to insure success in a gathering of this kind. A good active committee of ladies and gentlemen began weeks ago to prepare for the meeting. Everyone was told about it and everyone urged to do everything possible to spread interest in it all through the rich region of northern Sonoma county, in which Geyserville is situated. The editor of the local paper, the local preachers, the merchants and all the other townspeople were urged to assist. The aims and purposes were fully expounded and the local grange turned its full strength into the undertaking. The result was a finely decorated hall, a splendid exhibit of fruits and other produce and a large assembly of people at the opening hour. The University speakers were not heard in silence, but the most active questioning and the freest contribution of local experience was indulged in. As a result the meeting was active from the start and a pleasure to everybody. On the second day a fine free dinner was served and the interest was so great that an additional session was held to finish the programme and allow for fuller discussion. Geyserville is one of the banner places for institutes in the upper part of the State.

QUERIES AND REPLIES.

Inoculation for Texas Fever.

To the Editor:—I have heard that inoculation for Texas fever is proving very satisfactory in Australia, and that they have a law requiring it. Can you give further information on the subject?—A. C., Orange county.

We have not at hand a full statement concerning inoculation against Texas fever in Australia, nor do we know in which colony such a law has been adopted. We have a copy of the Queensland Agricultural Journal, published by direction of the Secretary of Agriculture for Queensland, dated July, 1899, which has an account of inoculation for Texas fever. It seems to give very satisfactory results from the treatment. The writer says that he "is certain that the loss from inoculation can be put down at the outside at 5%, and if the cattle are treated before the tick comes the losses will be less." This operator seems to have inoculated several hundred cattle.

Inoculation as practised in this country has not been satisfactory, according to Mississippi experiments, mentioned in the last Report of the Bureau of Animal Industry of the United States Department of Agriculture, but we have just received an outline of experiments at the Missouri Experiment Station, which says that for many years Texas fever has been the greatest obstacle in the way of shipping Northern pure-bred cattle to the Southern ranges. Heretofore losses in cattle shipped from the North by this malady have rarely been less than 40%, and frequently 70% or more. For a number of years Dr. J. W. Connaway of the Missouri Experiment Station and Dr. M. Francis of the Texas Experiment Station, with the help of the Missouri Board of Agriculture, have been working on this problem, with the result that a successful treatment has been put in operation. Already 400 blooded cattle have been inoculated and exposed to Texas fever on the ranches for an entire year, with a loss of less than 8%. During this time a loss of 65% has been reported in one lot sent without inoculation to an adjoining ranch. The climatic conditions and general treatment were similar in the two cases. The Missouri Experiment Station is now inoculating about 250 head, representing the Shorthorn, Hereford, Devon and Red Polled breeds. These will be exposed to the fever in the South next summer for a further test of the efficiency of this method of immuning cattle against this disease.

Alfalfa for the Coast Regions.

To the Editor:—How does alfalfa succeed in the coast pastures? What are the general requirements of the plant?—Subscriber.

Alfalfa does best upon rather a light, deep soil where the roots can penetrate to the standing water, even though it be at the depth of 15 or 20 feet or more, and in such situation it will produce very satisfactory results without irrigation. Wherever there is hardpan or any impenetrable stratum, so that the roots can not reach the water, or when the soil itself is dry to too great a depth, irrigation has to be resorted to, and then the amount of crop is proportional to the amount of water and the length of the growing season. In the interior valleys of California sometimes more than six cuttings of alfalfa are secured in a season by the use of irrigation water after or before each cutting. Along the coast of the upper part of the State alfalfa is not usually very satisfactory because of lack of summer heat and a shorter growing season, for alfalfa does not like cold weather, though it is not killed even by hard freezing. Still, in coast valleys with good depth of soil it is often satisfactory. It depends much upon soil and situation.

Bermuda Grass Again.

To the Editor:—I have read with interest what has been said in the Pacific Rural Press about Bermuda grass. I wish to know if Bermuda grass will grow in the dry mountains of Humboldt county, and, if so, will it stand the droughts through summer and thrive in the wet season? I know this grass is a success in the rich damp lands, but I want a grass that will thrive in the dry mountain ranges, live through a summer drought and come up through the rainy season.—H. T. F., Petaluma.

So far as drouth goes, Bermuda grass will grow on the mountains of Humboldt county, we have no doubt, but it will not thrive in the wet season. It is a very tender plant and will lose its top growth entirely under sharp frosts. If there is a banana belt in Humboldt county you might expect winter growth of Bermuda grass, but not otherwise. It will live through the drouth all right, but it will not come up in the rainy season. When corn planting time comes in the spring the Bermuda will be there. The grasses which we frequently commend, Orchard grass, English and Italian Rye grasses, Brome grasses, Tall Oat grass, etc., are hardy winter growers, and they will live through the summer also in most parts of Humboldt county and start both from root and seed with the first rain.

Prune for Hill Land.

To the Editor:—What is the best prune to plant on a hill ranch?—Frank Cooper, Berkeley.

We do not know of any variety better for a trying situation than the common French prune. It has undoubtedly a wider range of adaptations than any other variety so far as we know. But we should not care to plant even the French prune on uplands unless we were quite sure of enough soil depth and mosture. Very large prunes come from the hills, where they have good soil and enough water, but where there is excessive heat and lack of moisture in midsummer. As is apt to be the case on many hillsides, the prune is likely to be a disappointment. Possibly we shall know later some prune which will be large and good in a dry place but we do not know such a one now.

Seeds From the University.

To the Editor:—Can I get garden vegetable seeds from the University?—Reader, San Francisco.

The way to get Government seeds of the character you mention is by application to the Member of Congress from your district, for he has a certain allotment of seeds for distribution. There are only distributed from the University certain new things which they desire to have tried as to their adaptation in California. They do not recommend them in all cases, but simply send them out for trial for the purpose of getting that information. A list of what they offer this year will soon be issued; but this list will not contain ordinary garden vegetables; consequently, you must address your Congressman on that subject, or, what is a better proposition, generally, buy the seed from some reputable California seedsman.

Grafting and Girdling.

To the Editor:—Can you say if apricots and domestic plums are successful top grafted in Japanese plum wood? I have some Royal apricots on peach in ground that is too wet for the root. I want one more crop, and wish to girdle them to make fruit earlier for shipping. When should it be done and to what extent?—"Nemo," Rumsey.

We have not made such grafts, but we should expect success with them. Who will answer from experience? Girdling is done with best results when the fruit is about one-third grown. It should be done in the branches, just below the lowest fruit. The effect would then be more marked than if done lower down. In the case of grapes, ripening is advanced ten days or more. We do not know the exact effect on tree fruits.

Value of Climatology.

We are interested to note that our Section Director, Alexander McAdie of the Weather Bureau, in his report for October, speaks very emphatically of the agricultural importance of climatology—a line in which we submitted a plea some months ago. He says, speaking of a fine piece of work recently done in Maryland:

It is clearly shown in a volume of this character that a knowledge of the climatology of a country is of great practical value to the merchant, the engineer, the doctor, and above all to the farmer. What such information is worth on the Pacific coast let the agriculturist, miner, stockman and engineer tell. Particularly at this time when the Pacific seems destined to become the great connecting link between the civilizations of the new and the old worlds, it is important that we should have climatic information complete as knowledge, skill and means can afford. Meteorology may be, as sometimes stated, "the border land where physics, chemistry and geology meet," but climatology in the broadest sense embraces all the applied sciences. It weaves together many separate strands into a knowledge of the controlling factors of life: not only the life of an individual, a community or a nation but even of continents and worlds. A study of the climatic data of the Pacific coast, as comprehensive as this work which issues from Maryland, would be the starting point in the solution of the problems of climatic evolution which are discernible on the Pacific coast perhaps in more marked degree than elsewhere.

We are glad to have this declaration of faith from Mr. McAdie and to know also that he proposes to show his faith by his works. It has been currently reported that he has recently refused a very tempting offer from the East because he wishes to develop the climatology of this coast along lines which enter into his conception of its uniqueness and importance. He is already hard at work in this undertaking, and does not desire to be averted from it. Californians will appreciate this resolution and will be ready to join the outside world in honoring achievement in the direction indicated.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Nov. 27, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature was several degrees above normal on the southwest coast, slightly above in southern California, normal in the Sacramento valley and in the vicinity of San Franciseo, and below normal in the San Joaquin valley. The rainfall was unusually heavy in Humboldt county, and generally in excess of the normal in all other parts of the State. In those sections where the seasonal rainfall has been heavy, farming operations have been retarded, the soil being too wet for plowing and seeding; in portions of the Sacramento valley and the northern San Joaquin plowing and sowing have been discontinued, and no farm work can be done until the soil dries; in the southern San Joaquin and southern California this work is now progressing satisfactorily, and a large acreage is being sown. Warm, dry weather for two or three weeks would be beneficial. Green feed continues plentiful. Orange shipments are light, owing to the unfavorable conditions for picking. Southern California oranges are ripening slowly, although picking has commenced in some orchards. In some sections fruit buds are swelling, though not so extensively as to cause alarm; it is reported that cherry trees are in bloom in the vicinity of Vacaville, probably due to some disease of the trees. Early-sown grain continues in fair condition, but would be benefited by warmer weather. Light frosts are reported from many counties, but no damage was done.

Sacramento Valley.

Orange shipments are being made, but picking is retarded by rains and wet ground. Fruit buds are swelling; in some sections cherry trees are in bloom, owing, probably, to some disease of the trees. Pruning is progressing slowly. Excessive rains have made it impossible to seed summer-fallow land and early sown grain does not look promising. Warm, dry weather continues to be very beneficial.

Pasturage continues plentiful.

Coast and Bay Sections.

Pruning progressing in many orchards. Olives are ripening; the yield in Sonoma county will be heavier than last season, though not a full crop. Light frosts occurred in some sections, but caused no damage. Light rain on the 21st, followed by pleasant weather, made excellent growing conditions. Plowing and seeding are progressing steadily in some sections, while in others the soil is too wet for working. Early sown grain is doing well. Sugar beets have been greatly benefited by warm weather, but are moving slowly, owing to continued rains.

San Joaquin Valley.

Foggy nights and mornings, with rain on the 21st and 22nd, delayed orange picking and shipping. Wine grapes were somewhat injured by rain. Light frosts occurred in some localities. The weather has been unfavorable for farming operations in some sections, but in others the rainfall has enabled farmers to continue plowing and seeding. Fields are green and feed is abundant.

Southern California.

In San Diego county oranges are coloring slowly and need warmer weather. In the vicinity of Los Angeles, where warmer weather has prevailed, oranges are developing more rapidly and picking has commenced in some orchards. Light frosts occurred during the week, but no damage was reported. Plowing and seeding were delayed by rain on the 22nd, but this work has been resumed. Warmer weather followed the rain, causing green feed to grow rapidly. The season thus far has been favorable.

Los Angeles Summary.—The ground is in fine condition for working. Plowing and seeding are in full progress. Every available acre will be planted. Fine growing weather for grain, grass and citrus fruits. Orange picking for holiday trade continues.

Eureka Summary.—Grass growing rapidly. Heavy rains prevented plowing and materially interfered with farm work.

The following data for the week ending 5 A. M. Tuesday, November 28, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	6.38	18.24	6.63	7.96	46	64
Red Bluff	.70	6.46	1.08	4.80	46	64
Sacramento	.02	6.98	1.56	3.22	44	62
San Francisco	.01	7.58	2.32	3.50	48	64
Fresno	.00	3.44	1.49	1.45	38	62
Independence	.00	0.90	0.37	1.37	30	62
San Luis Obispo	.00	5 76	0.67	3.05	38	72
Los Angeles	.00	2.48	0.18	2.40	38	68
San Diego	.00	1.25	0.22	1.69	50	72
Yuma	.00	0.58	0.18	1.22	50	72

THE FIELD.

Suggestions on the Use of Fertilizers.

By ED M. EHRHORN at the last meeting of San Jose Grange.

Within the last few years the farmers and fruit growers throughout this State have realized the necessity of fertilizing their crops and trees. The idea which has always prevailed that soils in this State could not and would not give out has been abandoned. The soil has really not given out nor lost all of its strength, but the available ingredients have somewhat become exhausted and those still remaining do not become available fast enough to supply food for the enormous crops which we annually reap. If we consider for one moment the enormous tonnage of fruit which, say, a sixteen-year-old prune orchard has given in ten years, and for which the grower does not return a pound of food to the trees to replace some of this drain, is it a wonder that our trees cease growing and only produce a very inferior fruit?

What Is Required.—The days of "tickling the soil and laughing at the harvest" are over, and the time has come, especially for the fruit grower and vineyardist, to give something in return for every crop of fruit harvested.

The farmer has a much easier time, as he can save a great deal of fertilizing by rotating his crops. It is a well-known fact that the best results in the field are obtained where rotation of crops is practiced. To illustrate this matter I draw your attention to this table which I have prepared:

Crop.	Nitrogen.	Phosphoric Acid.	Potash.
Wheat, grain	2.36	.70	.39
Wheat, straw	.59	.12	.51
Wheat, chaff	.79	.70	.42
Barley, grain	1.51	.79	.48
Barley, straw	1.31	.30	2 09
Barley, chaff	1.01	.27	.99
Oats, grain	2.06	.82	.62
Oats, straw and chaff	62	.20	1.21
Corn, grain	1.82	.70	.40
Corn, stover	1 04	.29	1.40
Rye, grain	1.76	.82	.54
Rye, straw	.46	.28	.79
Pumpkins	.11	.16	.09
Tomatoes,	.16	.05	.27
Tomatoes, vines	.32	.07	.50
Beans	3.29	.29	1.51
Potatoes	.32	.12	.46
Mangel Wurzel	.19	.09	38
Carrots	.15	.09	.51
Carrots, dry tops	3.13	.61	4.88

You will notice that a wheat crop takes much less potash from the soil than a barley crop does. You will also notice that the barley straw and chaff will return to the soil, if left on the field, enough potash for the grain of the wheat and barley combined. Thus, when a farmer follows a wheat crop with a barley crop, he will again be ready to use his field for wheat after the barley, as there is plenty of material left for it. It is the same with the nitrogen, but we fall short in phosphoric acid. Corn stover returns just about half of the nitrogen and half of the potash. In other crops, such as tomatoes, potatoes, beets and carrots, you will notice that the vines and tops return large quantities of the three elements to the soil, and could be arranged in rotation so as to aid each other in a give-and-take proposition.

For the Orchard.—Rotation in the orchard is impossible, as the trees are planted there for many years. It is therefore necessary to know what ingredients the different trees take out of the soil. This is done by analyzing the fruit, leaves, stalks and root of the plants. The ingredients which the fruit contains the tree naturally takes from the soil, which it can only do when they are present and available, otherwise they must be put there as food.

There are four elements which any soil is likely to become deficient in—namely, potash, phosphoric acid, nitrogen and lime. Humus, which is decomposed animal and vegetable matter, is also very essential to the soil, and is generally supplied by plowing under weeds and leaves. This every fruit grower can do in his orchard, but I am sorry to say that it has been sadly neglected in a great many cases. Now, then, the question arises: Where can we get those three elements and how shall we apply them?

Potash.—The potash, which we buy for fertilizers, is found in Germany, where soluble potash mines are plentiful. The cheapest form is muriate of potash and is considered the best and quickest source of potash. Sulphate of potash is another form of potash, and must take the place of the muriate on alkali lands, as the latter helps to aggravate the alkali. All wood ashes are a source of potash, and every farmer ought to use these when he can. It will not pay to buy or haul wood ashes, however, as the quantity of potash contained in them will not warrant this expense.

Phosphates.—Phosphoric acid, the second element, is supplied by dissolved phosphates, which are dissolved phosphate rock, dissolved bone, dissolved boneblack and iron ores rich in phosphorus. In the prepared fertilizers the phosphoric acid is present and ready for the plant to take up. From the iron ore the Thomas phosphate powder is obtained and is now considered one of the best in this line.

Nitrogen.—The next element, and a very important one, is nitrogen. It is supplied by two materials—nitrate of soda and sulphate of ammonia, in which nitrogen is in a soluble form. Nitrate of soda is the quickest acting notrogenous fertilizer. It is found in large deposits in Chile and Peru, and is used in the manufacture of powder, etc. It is very soluble and must not be applied until the heavy rains are over, as it will be washed past the roots of the trees into the drain of the country. Dried blood and tankage furnish nitrogen, but are more insoluble and slower to act.

Green-Manuring.—A great deal of nitrogen can be supplied by leguminous crops, such as peas, beans, clover and vetches. These can be sown between the trees, and, when about 6 inches of growth exists, can be turned under with the plow. Burr clover is considered the best green-manure for this country. Unfortunately, being a native plant, its seed is not collected for sale, and unless it be gathered along the roadsides before autumn, it will be impossible to get sufficient to sow in the orchards. The cowpea and the different vetches have given good results. These plants gather nitrogen from the air, and in this way furnish nitrogen as well as humids for the soil. The last element, which is lime, is generally very abundant in all our soils, and so-called "liming soils" is not practised in California.

Barnyard Manure.—One of the commonest fertilizers is barnyard manure, which, when well taken care of, contains a good quantity of all elements. It is difficult to procure enough of it for the orchards, and when collected at random it sometimes has lost most of its strength by leaching and evaporation and also is liable to contain seeds of many noxious weeds. Manure can be made to keep its ingredients, especially nitrogen, by the use of gypsum. This substance should be kept handy and should be thrown over the manure heap every morning after cleaning the stable. It combines with the ammonia which is evaporating and holds it till ready for use. About a pound for each animal is sufficient.

Fruits.—I will now call your attention to this table of the analysis of fruits. By it you will be able to notice how much potash, nitrogen, phosphoric acid and lime there is contained in every 1000 pounds of prunes, apricots, pears, etc. You will notice that lime does not seem to be much required by the prune, apricot or pear, but see how much the olive contains.

Fruit.	Potash.	Nitrogen.	Phosphoric Acid.	Lime.
Prunes, 1000 lbs	2.66	1.48	.53	.13
Apricots, 1000 lbs	2.83	2.29	.71	.18
Pears, 1000 lbs	1.34	.90	.34	.19
Grapes, 1000 lbs	5.00	1.70	1.52	1.00
Olives, 1000 lbs	8.55	5.85	1.18	2.31

Thus it will be seen that every grower should study his orchard and try to keep plenty of food within reach of his trees. A little money judiciously spent in good fertilizers will be a good investment for the fruit grower.

FRUIT PRESERVATION.

Suggestions on Fruit Drying.

By J. B. NEFF at the Anaheim meeting of the Pomological Society of Southern California.

In selecting grounds for drying fruit choice should be made of land that will not work into dust with the necessary walking that must be done over it, and that is nearly level or slightly sloped to the south or southwest. An acre of land will be sufficient space on which to handle 100 tons of green fruit. If large quantities of fruit are to be dried it is very necessary to have cars and track. The most convenient cars are those with cast iron wheels 10 inches in diameter by 2 inches in face and 1-inch gas pipe makes a good, cheap axle. The car frames consist of side pieces of 3x4 pine fastened to the axles by $\frac{5}{16}$ stirrups, having cross pieces at the ends of 2x3 pine and a diagonal brace of 1x3 pine. The track rails may be of 2x3 pine with 1x4 pine nailed across the bottom to hold in place; but a better track, and one not very expensive, can be made of 2x3 redwood with 1x4 cross ties and 1¼-inch angle iron fastened to the inside of the rails by screws. This track is almost as good as a light T-rail track and not so expensive.

Trays.—The question of size of trays is one that must be answered by each fruit dryer for himself. If only a few tons are to be dried a tray of 2 feet by 3 feet will be convenient, but if large quantities are to be dried a tray of 3 feet by 8 feet will be found to be the most economical in every way. These should be made entirely of soft pine and free from pitch.

Sheds and Tables.—A shed for cutting fruit under may be of any desired size, but one with the largest possible openings on the sides is best and coolest. This should be arranged so that the cars can be run either through the middle, when large lots of fruit are handled, or at one side of the shed, having tray tables standing with their ends to the track.

A convenient table for holding trays is one 6 feet long by 2 feet 8 inches wide, made of 1x4 rails with 2x3 posts. There should also be a bar of 1x4 inches by 3 feet 8 inches long across the ends and 6½ inches from the top to set pit boxes on. These pit boxes are made of 1x16 boards 8 feet long and set at the sides just under the edge of the tray. Suitable stands must also be made to hold two boxes of fruit on each side of the tray and in the center, as it is intended that four cutters shall work at one table. These tables are also convenient for small trays.

Sulphuring.—Sulphur houses may be as varied in size and form as convenience shall dictate. A very good sulphur house can be made of a light frame covered with ordinary builders' paper to make it nearly air-tight. This should have handle bars on the sides so that two men can move it readily and place it over the trays when ready for sulphuring.

Houses.—For larger drying yards permanent houses will be required. These may be built of well-seasoned redwood ceiling and 2x3 pine. The most convenient form is to have a separate room for each carload of trays. The house may have as many rooms as needed side by side. The rooms should be 6 feet high by 3 feet 4 inches wide and 10 feet long for 3x8 foot trays. There should be a transfer car to take the loaded cars from the main track and deliver them at the door of each room, which has a short piece of track to receive the car. The inside of each room must be lined with builders' paper to make it tight, and this paper should be held in place by plastering laths—a lath on the lap of the paper and one in the center of the sheet. Cheap paper is as good as higher priced, for it can be used only one season. There will be a space between the trays and the back end of the room, where a place for burning sulphur should be made. A good way is to make a flue under the bottom of the room large enough to receive the sulphur vessel by bending a piece of sheet iron which can be removed when the season is over. The outer end of the flue can be fitted with a piece of board to regulate draft, and the inner end must have some protection to keep the heat from coming in direct contract with the trays. The door of the room must fit close and have weather strips of cloth or burlap sacks to insure it being nearly air-tight.

Suitable Fruit.—The fruit for drying must be ripe and must not be overripe, for there is almost as much loss in overripe fruit as in that which is too green, besides making slabs and injuring the sale of the better fruit. Fruit that is in good condition for eating out of hand is right for drying. Apricots should never be picked until they are yellow throughout, and must not be allowed to get ripe enough to crush in handling.

Handling Fruit.—Fruit should be cut evenly and clean, without leaving any strings to spoil the shape of the dried pieces, and placed closely together on the tray, with the seed cup level and uppermost.

Several kinds of machines have been made for pitting apricots, but so far nothing has been devised that can do the work of careful hands; and it is scarcely likely such a machine can be made. There are, however, machines which do fair work on small fruit which is not overripe.

Bleaching.—When the trays are full they must be removed to the car and kept under cover until enough is pitted to fill a sulphur room, but in no case should the fruit stand more than an hour before beginning to bleach.

When ready to begin the bleaching run the car into the sulphur room, taking care to leave as much space as possible in the farther end of the room, and close the door.

Only the best quality of sublimated sulphur should be used. The practise has been to use too much sulphur in bleaching, and as much as fifteen pounds per ton of green fruit is often used. This is waste, and worse than waste, for it spoils the flavor of the fruit. From three pounds to five pounds to the ton of green fruit is all that is required if the houses are made as they should be, and this quantity is scarcely noticeable on the fruit.

An iron pot of about 8 inches in diameter and 4 inches deep is the most convenient vessel in which to burn sulphur, and by regulating the draft at the mouth of the flue and at the top of the door the sulphur can be made to burn any desired time up to ten hours. About four hours is long enough to keep fruit in sulphur fumes in the coast regions, and a shorter time will do equally well in the interior. This can be determined only by experience, as what is wanted is to have the whole fruit bleached so that it will be transparent and dry flat without curling up at the edges. If the skin is not bleached it will curl up and make the dried fruit small. It must be remembered that it takes almost as much sulphur to bleach one tray properly as is required to bleach all that the room will contain.

Pears require a much longer exposure to the sulphur fumes than most other fruit, so that it is necessary to arrange for very slow burning of sulphur when bleaching these.

When the fruit is ready to leave the sulphur house the trays should be spread on the drying ground at

once, with a passageway between each row of trays.

As soon as the fruit will bear moving without losing its shape it should be loosened from the trays, and all the fruit of five trays placed on one tray. This can be done readily by taking the trays in groups of five and turning two from each side into the middle tray. This tray should then be covered with an inverted tray, and allowed to stand until all the fruit is cured. This can be determined by handling the fruit, which should be soft and pliable to the touch, but not sticky. The fruit should never be dried hard enough to rattle on the trays.

Grading and Packing.—After the fruit is properly cured it should be run through a grader, and each size placed in a separate pile in a tight room, having screens over the ventilator to prevent the entrance of moths. It is best to fumigate the storage room each season before using.

The fruit should be packed in boxes for shipment to market, and in order to get the best return and the most money for the grower must be handled by associations connected with a central exchange.

THE VETERINARIAN.

Tuberculosis Among Milch Cows as a Mode of Infection.

By CLARENCE W. KELLOGG, M. D., at the University Farme s' Institute at Lakeport.

Do you realize that consumption claims more victims than all of the plagues, wars, famines, floods and fires since the beginning of time; that millions succumb to it annually; that the death rate is constantly increasing; that in time it threatens to exterminate the human species?

Is it any wonder, then, that the combating of this most terrible scourge should be the most vital problem of the twentieth century, over which the world is puzzling?

The solution will most certainly be through prevention, and will result in the practical extermination of the disease, as has been accomplished in that former great scourge, smallpox, of which but little is now heard.

As one of the most potent means of prevention, and more particularly for the protection of the infant and young child whose health and life depend upon the care and judgment of the parent, I select for a subject the consideration of "Tuberculosis Among Milch Cows as a Mode of Infection."

Means of Communication.—It is universally conceded that consumption is contagious. It cannot be denied that tuberculosis of cattle is communicable to man: First, through drinking the milk from tuberculous cows; second, through the eating of tuberculous meat; third, through the inhalation of consumption germs emanating from diseased cattle.

The milk of a cow with tuberculosis of the udder is almost sure to contain the bacillus tuberculosis; the milk of a cow with tuberculosis of the lungs or glands is very apt to contain the germs of consumption.

"From absolutely reliable statistics it may be stated that 15% of all milch cows are tuberculous, and from microscopical examinations it has been found that the milk of 33⅓% of all tuberculous cows contains the germ, without considering those where the udder is diseased, all of which show the germs to be present. It may, then, be accepted as a fact that 15% of all milch cows are consumptive; that 35% of all consumptive cows give milk containing the consumption germ." Therefore, as Dr. Orvis, veterinary surgeon of Stockton, continues, "5⅓% of all milch cows transmit the germ of the disease from their own tuberculous bodies; hence one cow in every eighteen is giving poisonous milk, and that poison will certainly reproduce itself and cause its own specific lesions if deposited in a suitable medium."

Experiments.—In the experiments of the Massachusetts Society for the Promotion of Agriculture, in feeding calves and pigs upon milk from tuberculous cows, in from four to seven months 33% of the calves and 50% of the hogs had become infected with consumption. Only the strongest and most vigorous animals were selected in these experiments. If from 33% to 50% of such animals contract the disease, what per cent of non-selected infants contract the disease?

Spread of Consumption.—Dr. Archibald says: "After several years of close study of this affection (tuberculosis) and consulting all accessible statistics and the habits of the people where the disease prevails, I have reached the conclusion that the only constant associated factor is found in the bovine species, without any regard to the social position of a community, its geographical habitation, terrestial or atmospheaic condition. There are undoubtedly conditions of climate, habitation, etc., that favor the development of the disease, if the contagion be present; but this contagion, as stated before, is most often derived primarily from the dairy cow; therefore, if a community be closely associated with dairy cattle, tuberculosis prevails.

"In establishing proof of the position I have taken in this matter I would like to give you the histories of a great many countries which, before the introduction of the dairy cow, experienced perfect immunity from this disease; but after the introduction of the milch cow into these countries, we have been told by men of undoubted authority that the disease became prevalent. * * * *

"The country called the great Kabylia in Africa, which is occupied by a semi-civilized race of people who, according to such eminent writers as Hersh, Evans and other noted French authors, enjoyed absolute immunity from consumption. According to Morrell, Dumas and other historians, there is no evidence of the bovine tribe among them. * * *

"As these are a peculiar race of people, with peculiar ideas and habits not calculated to encourage visits from Europeans, they retain their immunity from consumption to the present day. But not so with their neighbors, the Algerians. When this country was first occupied by the French, half a century ago, the natives were enjoying an absolute immunity from tuberculosis; but after the French imported dairy stock, in 1854, the statitics of the death rate, by Jackson, in his Medical Climatology, shows that consumption was the cause of a large per centage of deaths among natives. And there are a great many other countries furnishing reliable statistics of the death rate from consumption, where the disease is not indigenous, but due to importation through the medium of dairy cattle; such countries, for instance, as Australia, China, Greece, Central and Upper Egypt, Iceland, certain parts of Russia, the Hebrides and others. * * *

"Let us consider for a moment the statistics of Europe, and there we find the prevalence of tuberculosis is regulated by the ratio of the bovine to the human race. Thus in Ireland, where the cattle number 4,570,000, a number nearly equal to that of the inhabitants, according to Dr. Wilde, consumption is by far the most fatal affection to which the inhabitants of that country are subject. Denmark, with about the same ratio of cattle to inhabitants, sustains about the same ratio of consumption. In Portugal, where there are about six inhabitants to every one bovine animal, consumption attracts so little attention that few notes can be found relating to the disease in that country. In Italy the distribution being one to six inhabitants, the mortality reaches an exceedingly low rate. Also in Lower Egypt, where the ratio is one animal to about every thirty inhabitants, Pruner tells us that the disease is very rare.

Conclusions.—"Thus the statistics go on, and when exceptions arise the cause is always evident in the conditions that influence the breeds of cattle. Taking into consideration all the foregoing facts, there can be little doubt that the in-bred species of the bovine race is the prime etiological factor of consumption in the human family. They not only nurse the germ, and prevent its extinction, but sow it in the human race continually and abundantly; and when we consider the comparatively few who are affected, and the immense number who are exposed to the infection and escape it, we are led to believe that without their aid the germ would die; for of all the germs known, none have so hard a struggle for existence in the human family as the tubercle bacillus. Man cannot generate new forms, but he can so control and interfere with nature's processes as to modify the original design. In-bred cattle are selected, sheltered and pampered, as they would be unable to withstand the rigors of the wild state. They propagate earlier, are larger milkers and more efficient beef producers, and their meat is more delicate and tender than that of wild cattle. All of this is achieved by man at the expense of his own health."

Local Figures.—For the purpose of investigation and the corroboration of statistics as quoted from Dr. Archibald, I have looked into the records of Lake county with the following results:

Estimated population of Lake county, 7000; total number of milch and dairy cows, 1345, or, approximately, one cow to every five inhabitants; total number of deaths recorded thus far in 1899, 55; total number of deaths recorded as being from consumption, 11, or one death in every five being due to consumption.

If we exclude deaths from accident, suicide, premature birth and old age, and bear in mind the cases recorded as being due to bronchitis, asthma, la grippe, pneumonia and bowel complaints, where the tubercle bacillus may have been a casual factor, the percentage of deaths from tuberculosis would appear very much greater.

Sources of Contagion.—As this paper pertains more particularly to milch cows as a source of infection, the subject of contagion through eating the meat of tuberculous animals and contagion from the inhalations from dried sputum will not be considered except to remind you that the sweetbreads and the liver are the most liable to contain germs, and are particularly dangerous as articles of diet, and also that, as the most common source of infection is supposed to be from man to man, how much greater it must be from animal to man, where 15% of our dairy cows are infected, and each one is said to discharge five times as many germs as an ordinary consumptive person, (Osler states that a patient with moderately advanced disease expectorates from 1½ to 4½ billions of bacilli in the twenty-four hours), and that 50% of infection in cattle occurs by inhalation of the bacilli? How urgent the necessity must appear for the inspection of cattle and for proper legislation in the matter?

Locations of Tuberculosis.—Biggs of New York reports that over 60% of post mortems made by him showed tuberculosis of the lungs. In the Foundling Hospital of New York the bronchial glands were tuberculous in every case. In Austria 60% of all deaths is due to some form of tuberculosis.

I wish particularly to remind you of the fact that the germs of consumption attack not only the lungs but almost every organ and tissue of the human body.

Infants and young children very rarely die from primary tubercolosis of the lungs, but millions die from brain fever, bowel complaint, scrofula, abscesses, bone disease and the like, which, did we but know it, owe their origin to the bacillus tuberculosis.

Tuberculosis does not kill until some vital organ is attacked, or the general system is drained by its ravages. It is quite safe to say that nearly all cases of so-called scrofula are no more or less than tuberculosis in some form.

From personal observations in Lake county, I am confident that more than one-half the children in the county have enlarged glands in the neck, and I most certainly believe that in a great many of such cases the bacillus tuberculosis is the casual factor. Whilst this condition, in the event of its being present, need excite no especial alarm, for, with fresh air, sunshine, proper clothing, food and environments, it is not apt to have any bad effects; at the same time, it should be borne in mind that this is not a normal condition, that these glands are not in perfect condition to perform their normal functions; hence, a child with such "kernels" has less power of resistance against the inroads of the germs, if, in fact, they be not already tenanted in these "kernels," awaiting but favorable opportunity to find more satisfactory quarters. Such "favorable opportunity" (for the germ, but not for the child,) is offered by improper food and clothing, damp and illy ventilated quarters, close confinement, protracted sickness or other drain upon the system, all of which tend to lessen the so-called "power of resistance."

A physician, when examining a case for suspected or possible tuberculosis, will invariably look for enlarged glands.

It cannot be questioned but that very many cases of death supposed to be due to la grippe, pneumonia, diseases of the stomach, bowels, liver, brain and other organs were the result of the bacillus tuberculosis, whose presence was not suspected.

Prevention.—Now, in conclusion, to the remedy at hand which will tend to check, to a very great degree, this most menacing of all plagues. This paper, treating only of the milk supply as a source of infection, will consider prevention to this extent only. Do you not look upon it as being almost criminal for a consumptive mother to be permitted to nurse her infant? Why, then, is it not even more so for a mother knowingly to feed her babe with milk from a cow which may be consumptive, when it is easily within her power to ascertain, beyond much question of a doubt, the true condition of such milch cow.

Detection in Cows.—It is most imperative that you bear in mind that the "power of resistance" of a cow against the fatal ravages of the tubercle germ is many times greater than that of the human; that a cow may be teeming with germs and still show no external appearances; more than likely she will have a bright eye, sleek coat, be well nourished and free from cough and enlarged glands.

There is but one way to establish a diagnosis of tuberculosis in cattle, which for all practical purposes is reliable, namely, the injection of Koch's lymph (the preparation which created such a furore throughout the world in 1890 as being the long-sought cure for consumption), whilst no longer employed as a curative agent, is universally recognized as the most reliable means for detecting tuberculosis among cattle.

That the most violent opposition and severest criticism to its enforced use has been registered by dairymen in communities where the "Koch test" has been made compulsory is to be expected, but that for all practical purposes it is reliable is certainly very generally conceded.

The Tuberculin Test.—The "test" is made by injecting a certain quantity of the lymph into the tissues, the temperature of the animal being taken previously, and for four days subsequent to the injection; if the animal "reacts," that is, if the injection induces a certain elevation of temperature, the animal is probably tuberculous; if no fever, the chances of consumption being present are very slight.

Is Tuberculin Dangerous?—Dairymen have claimed that the "Koch test" has been the means of infecting otherwise healthy cattle, a claim which is absolutely without foundation, provided a reliable preparation were properly used, as you will readily realize when I explain to you that the lymph is pre-

pared by triturating the dried tubercle bacilli (prepared in culture) in a mortar with a pestle; these thoroughly pulverized germs are then mixed with glycerine, water and soda, the mixture being placed in a centrifuge making 4000 revolutions per minute, and kept there for two hours; the opalescent fluid on top is then drained off and filtered through porcelain, with "Koch's lymph" as the result. This lymph is no longer very expensive; if concerted action were taken and numbers of cattle could be tested, the cost per head would be small.

This subject is certainly a most vital one and deserves your earnest consideration, and I deem it the duty of each of us as individuals and the community as a whole to take some action in the matter.

What Should be Done.—My suggestion would be that the Board of Supervisors for the county and the Board of Trustees for the town of Lakeport be solicited to so arrange that any person desiring a cow tested could have it done without expense to the owner, and that all tested animals be marked and recorded. The expense to the town and county will not be great, and the benefit to humanity in Lake county cannot be estimated.

Enforcement Unnecessary.—To enforce the test is absolutely impracticable; it has been tried and tried by Boards of Health throughout the world. In time it will most certainly be accomplished, but to wait for legislation would be a very unwise procedure.

Nor do I believe enforcement necessary in Lake county, as none can be so depraved as to care to risk infecting their families or their neighbors when the means for prevention could be so near at hand.

It cannot be doubted that a "tested" animal must have a greater intrinsic value than a nontested. All fine cattle are bought and sold "tested" or "subject to test" only.

In the event of an animal showing a tuberculous reaction I should hardly deem it advisable, as yet, to enforce the destruction of such animal, but of course it should no longer serve as a milch cow; the danger of infection from eating the meat of a consumptive cow (while not particularly appetizing to think of) is a hundredfold less than drinking the milk from the same cow.

I have seen fit to devote a very considerable portion of my time to the preparation of this paper because I consider the subject to be of the most extreme and vital importance to the present as well as the future generations of Lake county, a large percentage of whom have come and will come into this world tainted with an hereditary predisposition to tuberculosis, who require, demand and must have protection.

For a Mangy Mare.

To the Editor:—I have a mare seven years old that is troubled with the mange. I have used Dr. Kendle's remedy several applications. It don't seem to reach the case.—Reader, Santa Clara.

Apply the following once every fourth day: Whale oil, 8 oz.; soluble phenyle, 3 oz.; flowers sulphur, ½ oz.; oil eucalyptus, ½ oz.; mix.

E. J. Creely, D. V. S.

THE ORNITHOLOGIST.

Birds, Beneficial or Otherwise.

By Leonard Coates at the University Farmers' Institute at Napa.

This subject has been treated in a more or less intermittent manner for many years in the older States and in Europe, and of late has received some attention in California.

The United States Department of Agriculture, the American Ornithologists' Union, the Cooper Ornithological Club of California, and many other organizations, local and otherwise, are working to the end that farmers and the public generally shall become better informed on the *pros* and *cons* of this question, and that the rising generation especially shall be so educated that beneficial birds shall not be confounded with those that may work more harm than good. The issue is intensely practical, and not one that may be looked at from the standpoint of mere sentiment. It is a mistaken idea that some birds are wholly detrimental to the interest of the farmer, while others are always his friends, says Prof. Beal. Birds eat the insects which they pick up in their natural wanderings, and their bill of fare is varied according to the season of the year. Every bird is both useful and harmful to the farmer; the question is, which way does the preponderance lie?

Friends of the Birds.—The Department of Agriculture, in Circular No. 17, announces Bird Day in the schools. The proposition is to establish such a day on the same general plan as Arbor Day. The object is to teach the children to observe the nature and habits of birds, that they may readily distinguish friends from enemies. The *California Fruit Grower* says: "We have the testimony of the leading scientists of the United States to show that, unless the killing of birds soon ceases only a very brief time will elapse before the feathered tribe will become extinct."

There have been many State enactments, and during this year Senator Geo. F. Hoar and Hon. John F. Lacey, of Massachusets and Iowa, respectively, have both introduced bills into Congress to assist in the preservation of birds. Mr. Hoar's bill provides restrictions upon the importations of the bodies or plumage of certain birds, and upon the transportation of the same between the several States. Exception is made in the case of the ostrich and some other birds, whose plumes can be taken without loss of life. Mr. Lacey's bill provides for extending the power and duties of the Commissioner of Fish and Fisheries, so as to include game birds and other wild birds useful to man, by the propagation, distribution, transportation, introduction and restoration of such birds.

A California Law.—A State law, evidently for the purpose of protecting song birds and those that are ornamental, reads thus: "Every person who, in the State of California, shall at any time hunt, shoot, shoot at, take, kill, or destroy, buy, sell, give away, or have in his possession, except for the use of propagation, or for educational or scientific purposes, any English skylark, robin, canary, hummingbird, thrush or mocking-bird, or any part of the skin, skins or plumage thereof, or who shall rob the nests, or take or destroy, or offer for sale the eggs of any of said birds, shall be fined in a sum not less than $20, or more than $500, or be imprisoned in the county jail in the county in which conviction shall have been had, not less than ten days or more than 150 days, or to be punnished by both such fine and imprisonment."

Why Birds Are Killed.—It is estimated that the value of the farming lands of the United States reaches the enormous sum of thirteen billion dollars; insects and rodents are said to destroy products annually to the amount of two hundred million dollars. Birds are killed for two purposes; for food and for millinery ornaments. The millinery and lace trade represents an invested capital of twenty-three million dollars,—but a very small sum compared with the farming interests. For food, but a small percentage of birds are killed, and mostly game birds, so that the destruction of birds is due mainly to fashion's demand for the plumage for purposes of ornament, to their wanton destruction by those who simply have the desire to kill, and to the mistaken idea among many farmers and their boys that birds are their natural enemies.

Mr. William Dutcher, treasurer of the American Ornithologists' Union, says: "The birds protect the farmer; they work for him more faithfully and continuously than any other helper he can get; let the farmer recognize this, and in turn let him protect the birds. It would be a wise investment in actual dollars and cents for every farmers' club and institute in this land to employ a naturalist to teach the names of the birds about them and the part that each one takes in the preservation of nature's balance. I believe that when the farmers, their wives and children once become well acquainted with the good work the birds do in the meadows and orchards, the gardens and forests, it will be dangerous for any one to destroy one of the feathered helpers."

Need of Exact Knowledge.—Of course it is very natural for farmers to think that much of this sort of talk is purely sentiment, born of over zeal and enthusiasm, but lacking in good common sense. The farmer is talked and preached to by men who would starve to death in a year on any farm. Sometimes, indeed, this would-be reformer essays to buy a farm, with what result we all know. But in this case, as in some others, Uncle Sam comes to the rescue. When the United States Government, through its Department of Agriculture, discourses on birds, we may be content to listen and to profit thereby. Actual tests and examinations have been made from time to time with such care and perseverance that it is no longer a matter of conjecture as to what any particular bird eats, so that in many cases birds which have been supposed to be largely vegetarian in their habits are proved to be mainly insectivorous; all doubts are dispelled, and one may but study the bulletins issued by the Department to become convinced.

Forest Protection.—I have noticed recently, while crossing the Sierras, the vast improvement since the advent of the Government Ranger, whose business it is to protect the forests. These rangers are ubiquitous; one meets them everywhere, and unless a camp fire is properly extinguished, he will frequently follow a party for miles, warn the offender, or, perhaps, arrest him. He is the terror of the sheep herder, to whom he reads the riot act, with the injunction, "move on." The protection and preservation of the forests is at last seen to be of vital importance; facts and figures prove that to save the birds is equally so, and, while local agitation may be productive of good, I have very little faith in State legislation, for, even granted the passage of a bill which may seem to meet the requirements, would it not become a dead letter; few of such acts are enforced, and, strange as it may seem, let a person be arrested under the fish or game laws, and a jury trial, so often a travesty of justice, will send him on his way rejoicing.

A Bird Book.—The "Forest and Stream Publishing Co.," of New York, announces the publication of a book called "The Food of Birds," by Florence A. Merriam. It is largely a compilation of facts gathered by the United States Department of Agriculture, and its object is, plainly, to refute the arguments of those who claim that birds are the farmer's enemy. Amongst other analyses, that made of the contents of the craw of the woodpecker showed that 75% of its food consisted of insects. The blackbird is a great consumer of insects, being particularly fond of the weevil. He is accused of doing much harm in the cornfield, but the farmer is not apt to consider how many of the maggots feeding on the corn he destroys, and thus keeps in check a pest which otherwise might ruin the whole crop in a few years. I have also noticed blackbirds searching for the larvæ of the peach moth, and they are often known to rid an orchard of canker worms, twig borers, etc. The meadow lark relishes grasshoppers, and has a large appetite. Thirty-six per cent of the sapsucker's food consists of ants. The blackbird during the winter eats an enormous quantity of the seeds of foul weeds, such as foxtail, morning-glory, etc., and should not be grudged a little wheat. Birds that eat fruit all prefer wild fruit. Hawks and owls feed upon the small rodents, and even rabbits. Perhaps the only bird which is unequivocally condemned is the English sparrow, but the linnet might also be included under the ban.

Nature, however, seeks to preserve the general equality of things, and to disturb this harmony by the destruction of any one bird, animal or insect is apt to bring unlooked-for trouble. But it is impossible to entirely preserve this equilibrium in a civilized and progressive country. Plants, trees and seeds are introduced from all over the world, and with them come many new creatures of the insect world, which again forces us to study their history and to find some predaceous or parasitic foe to keep them in check.

We destroy the hawks, and for the value of an occasional chicken we have to put up with linnets in such numbers that a small cherry crop means none for us, the birds taking all.

It has been shown that one pair of robins will bring to their brood in one season more than 3000 worms—cutworms and others. The robin alone saves to the farmers of the United States more than enough to compensate him for injury done by all other birds together. Thrushes and larks feed in much the same way.

The woodpecker is instrumental to a great extent in preserving valuable timber, for he is ever on the lookout for wood-boring beetles, wood ants and other insects which bore into trees. The sapsucker is condemned because of the injury he sometimes inflicts upon an apple tree, but, even then, the good he does counterbalances this lesser evil. When any of the birds are seen to be particularly active and busy, and present in large numbers, closer observation will reveal the fact that some noxious insect is present in great numbers.

Bud eating Birds.—An exception may be noted with linnets and other small birds which in the winter will congregate on orchard trees apparently for no other purpose than to eat the buds. It must always be remembered that when a bird is found for a short season to be feeding upon fruit, grain or other crop for the rest of the year he pays for it a hundredfold. Individual cases of loss and destruction to crops are to be found, but by such alone the bird may not be judged.

Suggestions.—I have perhaps said enough to show that most birds—even those which have been considered our enemies—have, upon proper examination and observation, been found to feed upon noxious insects and weed seeds to such an extent that this will much more than compensate for the loss to the producer in fruits or grains. We are apt to be prejudiced, and to stay prejudiced. In the matter of birds, as in everything else, we must think harder and act quicker, or ours will be the loss.

The law should prevent offering for sale the plumage of birds—with the exception of the ostrich or any bird which can so be used without injury to itself. Fashion is cruel, and her devotees indifferent. We can not expect to influence sentiment in this way.

The farmer must teach his boys differently, and find some other present at Christmas than the catapult, the airgun, the breechloader. The farmer may, indeed, be obliged to spend his Sundays at home to keep off his place the bands of wandering boys from the towns, who are out to shoot anything that flies or runs. Thus, if legislation will assist us by preventing the destruction of birds for their plumage, and also for the market as food, as with larks, robins, etc., we must do the rest as farmers, if good is to result.

M. J. Daniels of Riverside has gone to Washington as the representative of the various institutions in southern California interested in orange and other fruit growing and handling and will lead in the fight against the ratification of the treaty with Jamaica.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

REMARKABLE FEED. — Haywards *Journal*, Nov. 18: The recent rains and warm weather have caused the grass to make wonderful progress. In fact, the season seems to have changed into spring, for the green feed is as far advanced as is usual in April.

LOSS OF BEETS.—Oakland *Enquirer*, Nov. 24: The recent heavy rains have somewhat retarded operations of the heet raisers, near Pleasanton. There will he some loss, as the beets taken out after they begin a second growth have a smaller percentage of sugar. It is expected that next year there will he a much larger area planted than ever before.

CHAMPION CORN.—Haywards *Journal*: Jno. Wood has a stalk of corn on which were ten ears of corn of excellent size.

DISHRAG GOURD.—Irvington *Press*, Nov 23: Messrs. Grau & Werner have a plant which is a curiosity. It is called a rag cucumher. The fruit is about four times the length of an ordinary cucumher and larger in circumference. When the cucumhers are ripe the peeling can he split down the entire length, and from the center can he taken a rag or spongy substance which can he used for cleaning floors, windows or in fact all kinds of household work of a cleaning nature.

POULTRY SHOW.—Oakland *Tribune*, Nov. 22: It is expected that 1500 hirds will be on exhibition at the forthcoming show. The Oakland Poultry Association, under whose auspices it will he held, has made a new department—"For exhihition and sale only." In this department hirds may he entered for exhihition and to he sold, the fee heing 25 cents for each hird and a commission of 10% on all sales made. If it is desired, the hirds so entered can be scored and cards awarded for an additional 25 cents for each hird.

Butte.

SPLENDID ORCHARD.—Oroville *Register*, Nov. 23: At Palermo is the orchard of Mrs. Phœbe Hearst. There are 260 acres in oranges. Ahout one-fourth of the trees are Washington Navei, while the remainder consists of hudded varieties. From these trees iast year the crop was 17,000 boxes, and it is estimated that this year the crop will amount to 22,000 hoxes. The trees are irrigated every three weeks and are thoroughly cultivated after each irrigation. There are fifty-five acres of olives on the land; all are Mission varieties. Last year the crop was a good one, whiie this season the crop wiil run from 5000 to 10,000 gallons. The deciduous orchard embraces 680 acres, of which 300 are devoted to fruit. Of this 150 acres are now in bearing. Thirty-five acres are devoted to Tragedy prunes, thirty acres are planted to Bartiett pears, whiie the remainder of the iand is planted to peaches, and the varieties are the Tuscan, Seilers, Early and Late Crawfords, Susquehanna and Mary's Choice. The crop for this season was 800 tons.

FIG BUSINESS.—*Register*, Nov. 3: W. H. McNamee has nine acres planted to Smyrna figs. Half of these are eignt years old and the other half nine years old. His estimated crop from these trees this year is fourteen tons. These figs hegan ripening on the 12th of August and continued for six weeks. The figs drop to the ground, which has been rolled and kept clean; when they have dried sufficiently they are picked up and put in clean white sacks and shipped to Yuha City, where they undergo final treatment. It requires two or three days to dry them suffiicently weli for shipping from the orchard. Mr. McNamee says a man runs no risk with figs; they always hear weii. They fruit so iate that cold weather never injures them in the spring. He irrigates in the eariy part of the season, but stops five weeks hefore they hegin to drop from the trees. The soil is a red loam, 6 feet in depth.

Contra Costa.

RANCH SOLD.—Martinez, Nov. 25: One of the largest real estate transfers made in this county for a iong time is the sale of the John Walker ranch to L. H. Brouhack—a cattie king of Modoc county. The Walker ranch lies in the shadow of Mount Diablo, and consists of 1375 acres, mostly hili and pasture land. The price paid for the property is reported as $40,000.

Fresno.

NEW CANNERY.—Fresno, Nov. 24: The Tenney cannery at this place, which employs 600 hands during the fruit-canning season, wiii be torn down and replaced hy what probably wiil be the largest cannery in the State. This change is the resuit of the ahsorption of the Tenney conoern hy the California Canning Association.

WINE GRAPE SEASON CLOSED.—*Republican*, Nov. 23: Wine makers have decided not to huy any more grapes this season. The rain cracked the skins, and in shipment a heavy loss was sustained. The saccharine matter was very materiaily reduced aiso.

MONEY FOR RAISIN GROWERS.—*Republican*, Nov. 23: The stream of gold continues to flow from the California Raisin Growers' Association to its members in payment for this season's crop of raisins, as will he seen hy the following statement of daily payments: Oct. 5th to 31st, $758,946; Nov. 1st, $55,099; 2nd, $19,483; 3rd, $48,078; 4th, $21,944; 6th, $29,999; 7th, $36,102; 9th, $69,111; 10th, $40,103; 11th, $88,734; 13th, $218,823; 16th, $87,510; 17th, $43,952. Total payments to date, $1,517,884. Payments for grapes hy the wineries, which aggregate a large sum, are not made through the Association and are not included in the foregoing.

Kings.

PROSPEROUS VINEYARDISTS.—Hanford *Sentinel*, Nov. 23: Vineyardists are happy over the outcome of the raisin husiness this season. One said that his vineyard had brought in aiready this year $110 net per acre, and that he had not heard the last from the Association, either. Another grower received $570 from his patch of grapes, from seven tons of raisins, or an average of a little more than 4 cents per pound.

Los Angeles.

CANNERY PACK.—Pomona *Times*, Nov. 22: G. H. Waters & Co. have just closed the largest pack in the history of their cannery. This year's output of canned fruits and tomatoes amounted to 150 carioads—120 of fruit and 30 of tomatoes—in all 1,800,000 cans.

DIRECTORS ELECTED.—Pomona *Progress*, Nov. 23: At the annual meeting of stockholders of the Del Monte Irrigation Company, F. D. Green, W. F. Loud, S. F. Owen, George J. Mitchell and David Crawford were elected directors. The directors elected F. D. Green, president, Walter A. Lewis, secretary, and George J. Mitchell, superintendent.

Monterey.

PIONEER TOBACCO RAISER.—Monterey *New Era*: W. T. Bali of Seaside claims to he the first man who hrought tobacco seed to California, bringing it from St. Louis, Mo., in 1849. He says he has grown more or less of it since that time, and in 1864 raised 125 tons at San Juan for Dr. Flint and Bixhy & Co. for sheep dip. Next year he and his sons intend sowing hetween ten and fifteen acres.

NEW IRRIGATION PLANT.—MONTEREY, Nov. 16: Frank Doud has installed an irrigation piant near Gonzales which consists of an 80 H. P. pump with a capacity of 3000 gallons of water per minute and wiii irrigate 500 acres. The water is pumped from three 10-inch wells. The land to he irrigated is planted in alfalfa.

LARGE SUGAR BEET YIELD —Salinas, Nov. 23: The beet fieids are turning out record-hreaking crops. Yields of from twenty to twenty-five tons per acre are reported from the districts south of town and hordering the Pajaro river.

SUGAR BEET NOTES. — Watsonville *Pajaronian*, Nov. 23: The heavy early rains have started a strong growth of heets at King City from seed planted last spring. If these heets are permitted to grow the factory at Spreckels may have a chance to make its milling season continuous. With the King City country producing beets in spring and early summer, the San Juan and Giiroy districts turning off heets in the fall, and the Salinas and Pajaro valleys filiing in the iate fall and winter months with their immense crops, the sugar beet may become a continuous crop in the district tributary to the Spreckeis mill. This would he a new development in the sugar heet husiness, a speciaity confined to California. Up to the time the Spreckeis heet miil shut down last week over 90,000 tons of beets had heen siiced, and it is estimated that there wili he ahout as many more to cut. The crop is steadily increasing and the Pajaro valley and the Cooper and Moro Cojo ranches have an immense tonnage of beets to deliver. A period of several weeks of clear weather will he welcomed hy farmers and the beet factory management.

Riverside.

VINEYARD COMPANY INCORPORATED:—*Press*, Nov. 23: The Riverside Vineyard Co. has filed articies of incorporation. The capital stock is $150,000, of which $104,500 has heen suhscribed. The directors are Charles Stern, Alfred Stern, L. Harris, S. M. Woodhridge and A. J. Stalder.

Sacramento.

UNUSUAL GROWTH OF GRASS:—*Bee*, Nov. 20: Not in many years has the grass been so high at this season of the year throughout the Sacramento and San Joaquin vaileys as it is at present. Farmers and business men prediot a season of unexampled activity and prosperity.

San Bernardino.

ANNUAL MEETING.—Ontario *Record*, Nov. 22: At the annual meeting of the San Antonio Water Company G. T. Stamm, Charles Ruedy, A. P. Harwood, W. T. Leeke and J. T. Lindley were elected direotors. The gathering was unique in one particuiar at least. During the session not a singie stockhoider complained that he had not sufficient water to properly irrigate his trees.

FIRST ORANGE SHIPMENT.—Redlands *Citrograph*, Nov. 25: Novemher 20 the first shipment of oranges ieft Redlands for this season. A. Gregory and the Fay Fruit Company each shipped a car. The fruit was well colored and looked weil, hut it is yet too sour to be palatahie.

WATER COMPANY INCORPORATED. — *Citrograph*, Nov. 25: Articles of incorporation of the Yucaipe Land & Water Company have been filed. The directors are F. P. Dunlap, A. J. Duniap, A. H. Dunlap, Laura D. Eagan and Ida Duniap. Capital stock, $190,000; amount suhscrihed, $160,000.

San Joaquin.

SEASON PROPITIOUS.—Stockton *Mail*, Nov. 20: The unexpected wet weather has hampered the work of seeding in some places. Interviews with farmers show that while they are disappointed over enforced idleness and inability to do any piowing, they expect big crops. The probability is that there will he the largest acreage ever sown to grain in San Joaquin county.

CHICK PEA.—*Mail*, Nov. 20: E. C. Hahn, who is engaged in farming on the lower division of Roherts Island, near Black slough, is in town to-day. He has heen experimenting with the coffee hean, and thinks it can he raised successfully on the islands. It withstands frost pretty well. The coffee hean is not raised in this State except by a few Mexicans, and in limited quantity. It grows in a pod as large as that of a large-sized pea pod, and has two heans to each pod, the heans heing somewhat ohlong and as large around as very big peas. When roasted the heans taste a good deal like Java coffee, and they are used as an adulterant. The Mexicans, however, make a soup of them.

Santa Cruz.

APPLE SHIPMENTS. — Watsonville *Pajaronian*, Nov. 23: Yesterday fifteen carloads of apples were shipped for Eastern and European points from Watsonville. It was the iargest shipment ever made from here in a day, and aggregated ahout 10,000 hoxes. The Eastern apple shipments for the week were forty-two cars, making a total of 364 cars for the season. Los Angeies is drawing heavily on the apple stock of Pajaro vailey. Many are re-routed to Arizona and New Mexico points.

Sonoma.

BIG HOP SALE. — Santa Rosa *Republican*, Nov. 20: Farmer & Peterson made a hig sale of hops, probahly the largest in the history of Sonoma county. They had carried over remnants of two crops, and with the yield this year their hales numhered 1564. The entire amount has been disposed of. The price was not what had been hoped for, but the growers made a fair profit on their investment.

MONSTER MUSHROOM.—*Republican*, Nov. 23: The largest mushroom yet reported was sent to this office from Smith's ranch. When found it measured 42 inches in circumference, 14 inches in diameter and weighed 1½ pounds. The monster mushroom was found hy Dr. Florence V. Cheney.

FINE ORANGE TREE.—*Republican*, Nov. 16: An orange tree on the grounds of the Leppo residence is ahout ten years old and has heen hearing for six years, each succeeding season's crop heing greater than the former. The oranges of this crop are already of unusnal size, and the tree is overloaded. It is estimated that seven or eight hoxes of the fruit may he gathered this season. The oranges are of exceptional quaiity.

NEW CREAMERY.—*Republican*, Nov. 23: J. R. Denman, proprietor of the creamery at Ely station, is building another at Bloomfield. The new creamery wiii he equipped with the very latest machinery, and will he under the charge of James Quanchi, formerly superintendent of the Denman creamery at Ely station. The buildings are almost completed. The main structure is 40x68 feet, and will be fitted with a 25 H. P. hoiler, a separator of 2500 gallons capacity an hour, and a combination churn and butter worker. The plant makes the fourth large creamery within a radius of a few miles. Besides the Bloomfield and Ely creameries, there is a fine plant at Valley Ford operated by Charles Reinohl, and the creamery at Bodega, which has iately had its capacity douhled. Miik is now worth $1 per 100 pounds.

SEASON'S VINTAGE. — *Republican*, Nov. 16: The vintage season in Sonoma county is practically completed. While the crop this year was short, not much if any over the usual product, prices ruled high and the vineyardists are weli pieased with their returns. Notwithstanding our short crop, State estimates give Sonoma credit for producing 1,000,000 gaiions more dry wines than any other county. Estimates of the dry wine crop of the State are 10,000,000 gaiions, divided as foiiows: Sonoma, 4,000,000; Santa Ciara, 3,000,000, heing a gain of 1,000,000 over the year before; Alameda, 1,500,000; Napa, 1,000,000; and Contra Costa county, 500,000 gaiions. The yield of sweet wines is piaced at between 5,000,000 and 6,000,000 gaiions, as against 7,500,000 gaiions in 1898. The falling off is attributed to the fact that some of the vineyards were badly frostbitten eariy in the spring and to the high price paid for raisins, which reduced the amount availahie for wine-making in the centrai and southern districts of the State. The fuli quantity of Muscats was made into wine, the diminution in the output of sweet wines heing in the iine of sherries, ports and angelicas.

EVAPORATED APPLES.—Santa Rosa *Republican*, Nov. 23: Jno. Vanderleith of Freestone dried 8000 hoxes of green appies, turning out over 400 hoxes of dried fruit. He has a ninety-tray drier which was operated night and day for over three months. He utilized 120 trays in the twenty-four hours' run. He got a satisfactory profit for his season's run and paid his neighbors good prices for their fruit.

OUTPUT OF APPLE DRIERS.—Healdsburg *Sun*: The following is the output of four apple driers on Dry creek: L. W. Helman, 1557 hoxes; Lane & Butler, 1209; S. Sparks, 542; R. Ruddick, 568; making a total of 3866 hoxes of 50 ibs. each, or a total of 193,300 lhs. The Sparks drier was burned in the middle of the run, but was rebuilt. The Ruddick drier is still running and will add a few more hoxes to the output. The four driers named handled ahout 650 tons of green apples and paid on an average of $8 per ton. The dried article has averaged a little over 6½ cents.

Stanislaus.

FARMERS ARE APPREHENSIVE. — Modesto *Herald*, Nov. 23: Farmers on the heavy lands are apprehensive that they will not he able to sow their summer-fallow. Because of the drought much of the summer-fallow was in poor condition, foul with rye and weeds, and they had determined to plow it again after the first rains, instead of putting in the seed dry, as usual. From the opening of the rainy season, however, the precipitation has been so continuous and heavy that hut little opportunity has heen presented for sowing.

Sutter.

OLIVE PICKLING.—Yuha City *Farmer*, Nov. 24: At the Sutter cannery ripe olives are heing delivered daily, and hy the iatter part of the week the shipping of pickled olives will begin. The olives, which are of the Mission variety, are of fine quality this year and ahout 20,000 gallons will be put up, most of which will he shipped in kegs.

DRYING RAISINS WITH COAL STOVES.—Yuba City *Farmer*, Nov. 24: When the rains hegan the dry yard at the Sutter cannery was covered with trays of Muscatel raisins hut partly cured. The raisins were stacked and as the wet weather continued it was feared that the entire lot would he ruined, hut Manager Pratt moved the trays into the huilding and with the aid of coal stoves soon had the temperature up, and in a few days the raisins will be entirely cured and ready for stemming. Over thirty tons were cured in this manner.

OREGON.

FRUIT GROWERS' MEETING.—Tacoma *Northwest Horticulturist*: The annual meeting of stockholders of the Hood River Fruit Growers' Union was held on the 11th inst. and the following directors elected: J. H. Shoemaker, G. J. Gesiing, H. J. Hihhard, T. J. Cunning and T. R. Coon.

POULTRY SHOW. — Tacoma *Horticulturist*: The Oregon State Poultry Association will hold its fifth annual exhihition at Albany, Or., January 22-27, 1900. F. W. Hitchcock of Denver, Colo., will decide where the rihhons will he placed. Numerous cash premiums are offered. For particulars address F. Fenwick, 211 Alder St., Portland, Or., or A. W. Blackburn, Albany, Or.

WASHINGTON.

NORTHWEST FRUIT GROWERS' ASSOCIATION.—Tacoma *Horticulturist*, Nov.: The next meeting of the Northwest Fruit Growers' Association will he held at Tacoma, Wash., January 16, 17 and 18, 1900. This is the seventh annual meeting of this interstate association. It embraces Oregon, Idaho, Washington and British Columhia. The officers are N. G. Blalock, M. D., Walla Walla, president; W. S. Offner, treasurer; C. A. Tonneson, Tacoma, secretary. Vice presidents: E L. Smith, Hood River, Oregon; L. A. Porter, Lewiston, Idaho; F. L. Wheeler, North Yakima, and E. Hutcherson, New Westminster, B. C.

CONDENSED MILK.—The Pacific Coast Condensed Milk Factory at Kent, Wash., is in successful operation, using about 9800 pounds of miik a day. Condensed, this amount makes ninety cases of forty-eight one-pound cans. The company hegan in October and is not ahle to supply its standing orders. The capacity of the plant is ahout 20,000 pounds of milk a day. Milk is hought on a hasis of 4% butter fat paying (November 1st) $1.35 per hundred.

Horse Owners! Use

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The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

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In speaking about Scott's Emulsion for children, you should not forget that it contains ***lime*** and ***soda,*** just what the child must have to form strong bones and good teeth. It's this forming time you want to look after.

Growing bodies must have an easily digested fat. Just think how much of it there is in milk, as cream.

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THE HOME CIRCLE.

Friendship.

A ruddy drop of manly blood
The surging sea outweighs;
The world uncertain comes and goes,
The lover rooted stays.
I fancy he was fled
And after many a year
Glowed unexhausted kindliness,
Like daily sunrise there.
My careful heart was free again.
O, friend, my bosom said,
Through thee alone the sky is arched,
Through thee the rose is red;
All things through thee take nobler form
And look beyond the earth;
The mill round of our fate appears
A sun path in thy worth!
Me, too, thy nobleness has taught
To master my despair.
The fountains of my hidden life
Are through thy friendship fair.
—Emerson.

An Indian Summer Reverie.

What visionary tint the year puts on
When falling leaves falter through motionless air,
Or numbly cling and shiver to be gone.
How shimmer the low flats and pastures bare,
As with her nectar Hebe Autumn fills
The bowl between me and those distant hills,
And smiles and shakes abroad her misty, tremulous hair.

No more the landscape holds its wealth apart,
Making me poorer in my poverty,
But mingles with my senses and my heart;
My own projected spirit seems to me
In her own reverie the world to steep.

Yusuf Bey's Sofa Cushion.

Selim Effendi was hard up for cash. As a registry clerk in the Candidacy Bureau at the Shelkh ul Islam's office in old Stamboul he had a salary of $7.50 a month. His salary had been fixed under a prevalent theory that a live clerk would discover how to gain $25 or $30 a month in presents from the candidates for appointment as preacher, for these candidates are always in a terrible hurry for their papers. Selim Effendi also had converted this theory into shrewd and pitiless practise. He had been lucky, too. Through the kindness of his friend and patron, Yusuf Bey, he had obtained a life ration of two rolls of white bread per day from the Fund for the Encouragement of Theologians, and through his own foresight he had composed a laudatory poem on a great state occasion which won for him a life annuity of $3.50 a month from the Fund for Praying Saints. But his sanguine temperament made his expenses discount his luck. After paying the cost of keeping up appearances, for the keep of his horse and the wages of his groom, for the schooling of his boys and the hire of a servant to attend them to the school, and for the silks and odd bits of jewelry which his wife expected out of any particularly fat fee, Selim Effendi regulary felt the malignity of Fortune at the end of each month. His luck then was to find no money in his pocket to pay the butcher, the baker and the grocer, who seem to prefer to sell on credit in old Stamboul.

One day the baker, standing in midstreet in front of Selim Effendi's closed door, and using that painfully loud tone common to Constantinople bakers when addressing recalcitrant customers, had uttered his views on people who take bread and do not pay for it. Then Selim Effendi saw that something must be done. He might change his baker. But this means of relief had already been resorted to, and the poor clerk's favorite nightmare was a vision of the man who had formerly enjoyed the privilege of supplying him with bread coming forward at some peculiarly embarrassing time and place to create a scene by his bawling. Turks loathe scenes. So Selim felt hard up for cash. Then he bethought of his old friend Yusuf Bey, the subchief of the land office.

Yusuf Bey was best seen for private affairs at his house, in the morning, where he was still comfortably lounging, barefooted and barearmed, in his white cotton underclothing and the figured chintz robe known in Turkey as a nightdress. In this airy attire he received Selim Effendi with the cordiality shown by a man who has seen life to one who has helped him see it. He winced a little on noting the solemnity with which, in answer to his inquiry, Selim Effendi said: "I am well; to God be the glory," for by such slight tokens the Turkish official foresees the purpose of a private call in the morning. So he skillfully thrust the conversation into distant political channels, whence his visitor would find it hard to return in any short time to questions of more limited interest. They discussed the Russian indemnity; the new Grand Vizier's low origin, and the "words which cook no dinners" wherewith in Egypt England was showing friendship to Turkey. Then Yusuf Bey thoughtlessly described a most delightful bake of red mullet in oil, to which his cook had introduced him a day or two before. This was Selim Effendi's opportunity.

"Ah, Yusuf Bey, my lamb!" said he. "You will understand my sufferings as you speak, when you learn that for months I have not so much as seen the bloom of a red mullet on my table. The grocer and the baker leave me no chance to say aught to butcher or fishmonger. The pressure which my baker puts upon me would squeeze juice out of rock. And my children! They are ragged as Lazarus the Jew! Every night I take refuge in the coffee shop from their clamor for clothes."

"Keep up your courage, Selim. However high a mountain is, be sure that its pass can be found. Of course happy candidates eke out your salary?"

"Yes, but some misbeggotten wretch has appointed that beggar Sami Effendi supernumerary under my desk. He takes part. You can make the pass over my mountain of poverty. Have pity on me, Yusuf Bey! I will kiss your feet! Lend me £3 and you will raise me from the dead. It is November and there are still wood and coal and other necessaries to be provided for my children. Be kind to me! I will make many, many prayers for you."

"Do you not suppose that I, too, know the bitterness of such a condition as yours? But in these days salary does not come out of the Treasury more than twice in the year."

"Ah! but in the Land Office there is always money. Be merciful to me. After God, you are my only hope! In six months I will have money coming to me, and your loan will be the first thing to be paid. I will never forget your benefits. I will pray God daily to give you great opportunities."

"See here, my friend, do not break my heart with entreaty. A man's flesh can not be eaten, his skin can not be made into leather, and what is he good for if not to help his fellows? Come back to-morrow morning, and we will see what can be done."

The next morning Selim Effendi appeared at Yusuf Bey's house again, and was received with solemn courtesy. The two men smoked cigarettes and sipped black coffee, while the conversation rolled easily from politics to the latest palace scandals, and from scandals to the appointment gazetted in the morning papers. At last Selim Effendi said:

"Yesterday you were good enough to give me hope. If I have found favor—"

"Yes, yes," interrupted Yusuf Bey, "your children are in need, and you want £3, which you will repay in six months. If there is any there I will lend it to you. Just turn up the end of the cushion on which you are sitting, and see if there is anything there."

Selim Effendi lifted the end of the cushion, and behold, on the matting under it lay three shining pieces of gold! With a quick clutch he thrust them into his pocket, saying: "O my benefactor! You have extended my days! Day and night I shall pray God to reward you a thousandfold."

He made a plunge at the skirt of Yusuf Bey's robe to kiss it. Yusuf tried to draw away the robe, and so Selim Effendi got hold of his hand and pressed it to his lips and to his forehead with appearance of great emotion. For Selim was punctilious in outward pactise of decorum! Then, saying: "May God be content with you! May God give you all success!" he went away.

It chanced to be characteristic of Selim Effendi that his praiseworthy emotions often lagged behind the mental effort to express them in response to some twinge of conscience. Such a habit makes a well-balanced course in life far more easy than where the emotion comes first, and forces the outburst of hot words and perhaps of hasty action which reveals it. But it had with Selim the curious result that to express a good intention carried with it a glow of self commendation. This in turn made the effort to express the intention in vigorous words vaguely impress his mind like labor to execute it. After an ardent declaration of purpose, therefore, nothing remained to be done but to embalm it in memory as a good deed completed. By the time that he reached the street after leaving his friend, his mind felt no reminder of need to pay his debts, and to provide for the coming winter. The only thing that pressed was to silence the baker by giving him a pound on account, together with certain unsavory epithets due to a man who pesters for money Government officials occupied with graver matters than a baker's ledger accounts. The rest of Yusuf Bey's three pounds followed the easy going rule of many windfalls of wealth. "God is good," said Selim to himself, as he bought a glit watch chain and some theatre tickets. "If I have luck with the Rumelian Railway lottery, I will then get the winter supplies, and Yusuf shall have his money back, too."

Six months passed, then a year. Selim Effendi was still hard up for cash, and the loan was still unpaid. By foresight and alertness he succeeded in avoiding his friend. Then he met him unexpectedly face to face. Yusuf Bey was cordial as usual and said nothing about money. They met several times in the same friendly way. Little by little Selim learned to say to himself: "This man has so much money that he does not know what he had two years ago. Why should I remember what he has forgotten? What God has put in my way I must accept with thanksgiving. I ate it up, and it is gone. That is the end of it."

In 1894 a great earthquake shook to its foundations the lazy old city of Constantinople. It cracked the walls of houses and brought down about the ears of the shopkeepers in the bazaars huge masses of antique masonry. What more natural than that he should remember the kindness of his friend, Yusuf Bey? "Yusuf has forgotten the affair of three years ago," said Selim to himself, "and this time I will certainly repay him."

So he again called upon Yusuf Bey in the early hour of privilege, when the great man was still reclining upon the divan of comfort, dressed in his white underclothing and his chintz night robe. After the usual skirmishing around the horizon, Selim came to the central point of his thoughts by saying: "May God spare you, my friend, from such damage as the earthquake did to us. The brook which I thought would not wet my ankles has gone over my head."

Oh, you want to borrow £3 again," said Yusuf Bey, smiling. "Well, come to-morrow morning, and we shall see what we can do. A man is not worth much unless he is of use to his friends."

"Selim was astonished at his easy success. The word "again" stabbed his conscience. The former loan was not forgotten. Yet he had been told as before to come the next morning. It must be that Yusuf Bey was one of those men who overlook faults and do good deeds as treasure laid up in heaven.

The next morning the psychological moment came for delicately hinting that he would like an answer to his request. Selim somehow felt himself to be trembling. But Yusuf Bey, as before, told him to look under the sofa cushion upon which he was sitting. Selim raised the end of the cushion with a smiling face. The bare mat alone met his eyes! The man was so astounded that involuntarily he said, "There is nothing here!"

"Nothing there" said Yusuf Bey. "Look well. Are you sure they haven't slipped further back under the cushion?"

"No," replied Selim, tugging to lift the heavy cushion," there is nothing here but some dust and a spider."

"Well, well!" said Yusuf Bey. "It must be that you forgot to put them back! If you had put them back the other time, they would certainly be there now. I am truly sorry not to help you; but you see for yourself that there is nothing there."

For a moment Selim's mind was paralyzed. Then as the meaning of Yusuf Bey's words dawned upon him, he made a profound salutation and went away. He had taken one step in his education.

Hasty Speech.

If there is any lesson that should be instilled in children, it is the danger of hasty speech. The habit of unkind talk is one that vitiates the character, and the habit often begins in childhood. The boastful boy or girl grows into the arrogant man or woman. The sneering child develops into an adult full of illnature and uncharitableness. The infant gossip becomes a full-fledged slanderer. It often happens that the very traits of character which are most amusing in a child are those which develop into the most hateful and unlovely ones in the man or woman. The smart little girl, who amuses every one with her mimicry, often becomes a gossiping woman, whose careless speech is too often spiced with slanderous inuendo.

If the growing girl is warned by precept and example against all forms of personal criticism and censure, she will not be apt to fall into this fault in after years. She should be protected against companions who indulge in censorious gossip as she should against poisonous serpents, and should be taught to recognize and avoid those persons who season their conversation with unkind, sharp talk about their neighbors as she should be to avoid poisonous fruit.

How often it happens that those who are the most censorious critics of their neighbors' actions are the persons who are most faulty themselves in the very matters they criticise. The average gossiper utterly fails to remember that "soiling another will never make one's self clean." An unkind or censorious word in itself may be trivial in its effect, but as a step in the career of its author it a very serious thing. In its final effect, repeated and exaggerated as it inevitably will be, it may ruin a life.

The desire to shine in conversation, to excite admiration by sharp, witty speech, tempts many a young person into talk which is both wicked and scandalous. The child gossip is one of the features of modern society. The desire of exciting admiration is developed at an abnormal age in the atmosphere of modern society, and children sometimes become expert in retailing affairs that are "none of their business" at an age when the old-fashioned child was interested in nothing more vital than sugar plums and dolls. These abnormally developed little gossipers are one of the saddest criticisms on their parents, whose foolish, scandalous talk they repeat with parrot-like fluency.

HOUSEKEEPER—Why are apples so high in price?

Marketman—'Cause they are scarce, mum.

Housekeeper—But the papers said the crop was so enormous that apples were rotting on the trees all over the country.

Marketman — Yes'm. That's why they're scarce. It didn't pay to pick 'em.

An Autumn Evening.

How lingers long the sunset light
This exquisite and tender night!

I see above the tree-tops swim
The little moon's light, slender rim;

A very thread—a trace of light—
The wheeling swallow hides in flight.

Withdrawn to westward, fair and far,
Shines one lit lamp—the evening star.

I hear the little children gay
Who shout across the fields in play,

And by the wayside well I hear
A girl's voice singing sweet and clear.

Oh! many mortals near and far
Look westward to yon sinking star,

With hearts o'erbrimmed with joy divine,
And hearts all desolate like mine.

Yon slight thread of the southern moon
Shall round to bright perfection soon;

Yon sunset star, so far withdrawn,
Be glorious leader of the dawn,

And long, long ages sound hereafter
Love's happy song and childhood's laughter.

For me how hard it is to think
That stars return not when they sink.

How far, how dwindled seems the day
When I was of the children's play!

That song, how far, how lost, how dear,
That from a stranger's lips I hear!

Love set; what rises? in the gray
Still twilight slides my life away.

But yet I hear in other voices
Echoes of life that still rejoices.

I do not grudge them any gladness
Before the silence and the sadness.

Soon all alike, laid very low,
Shall neither hear nor feel nor know;

Nor watch the hastening evening star
Plunge in the west so fair, so far.

—A. S. Falconer in Chambers' Journal.

Care of the Hair.

In France fashion says now that one may wear one's hair in any style liked except the pompadour. The pompadour is out of favor now with well-dressed women. To take its place there are several styles, and perhaps fashion is about equally divided between a high coiffure, with a bunch of curls over the forehead, and a parting, with the waved hair arranged flat on top and puffed out on each side. The first style approaches that adopted so many years ago by the Princess of Wales, but the curls are looser and more irregular, and, it is needless to say, not kept in place by a hair net. The second style is much the prettier, and if carried a bit further would suggest the classical. The curious part of this change of style in hair dressing is the total dissimilarity in the two fashions in vogue. The woman who appreciates the fact that a head of hair well kept and simply arranged is a truly beautiful adornment must give considerable time to keeping the condition of the scalp perfect. To do this it is necessary not only to brush the hair daily, but to give it a thorough wet shampoo at least once a month. The soft, fluffy look of the hair, and its beautiful gloss after having been shampooed, shows how grateful it is for the treatment given it. Experience, though sometimes a tiresome teacher, has taught that the best way to cleanse the scalp and the hair is to use very hot water, made "soap-sudsy" with tar soap; use a nail brush, upon which the soap has been rubbed, to scrub the scalp thoroughly, and after every part of the scalp is washed rinse the hair and head with baths of water, the first being the temperature of that used for washing the hair, and the last ordinarily cool, the baths having been gradually graded. To get such a bath for the head it is only necessary to hold one's head over the basin and have the water from a small pitcher poured over it. Each bath necessitates the wringing out of the hair until it is quite free from soapsuds, and until the water is as clear as before it went over the head. When the hair is shampooed it is wise to put on a loose wrapper that cannot be injured either by water or soap. Do not use a fan in drying the hair, as it has been found to give many women severe colds, nor the loose Turkish toweling for rubbing the hair, since it is apt to leave fluffs of white cotton all through it; but for the first rubbing use a thick, hard Turkish towel, and after that rub the hair and the head with ordinary towels which have been made hot for this purpose. You will be surprised to see how quickly and comfortably the hair dries. Do not put the hair up until it is perfectly dry, or it will remain damp for a long time, and have a close, mouldy and altogether undesirable smell about it. Use as few hairpins as you possibly can.

Children's Eyesight and How to Care for It.

It is now a recognized fact by most well informed teachers and professional men that quite a proportion of the children in our schools are constantly taxing their eyes far beyond the power of endurance, says Dr. Hunt in the Redlands *Citrograph*. To any one of common observation this is apparent, on entering any schoolroom and simply watching the movements of the children for fifteen minutes in their study. As you will observe, you will see one holding his book on one side as if he had but one eye, a second girl will first hold the book near and then far off, and a third will look as if he was not looking on his book at all. The teacher says: "Johnny, look on your book; "study your lesson." Johnny looks up surprised, but does not change the position of his book, and finally the teacher comes along and adjusts Johnny's head to the proper position. And all for what? Johnny does not know, and the teacher has not given time or thought enough to the matter to see that Johnny cannot see and is trying to focus his letters. Hence he is called stupid, a dull boy, and that is all. Such children often become cross and irritable, and are drowsy and dull, while at the same time they become discouraged and lose self-respect and ambition.

To go on and enumerate all the daily occurrences that hinder the scholar who has poor vision is useless, but we know that they are often mistaking the words and the letters, and making errors that are most amusing to the class as well as annoying to the teacher. I once was present when a teacher corrected a scholar a number of times, and, finally becoming discouraged, she said:

"Johnny, does that look like *from* to you?"

"Yes, ma'am."

I at once suggested that Johnny go nearer, and Johnny was surprised. "No," said he, it is *them*." Showing that he was not able to see the letters. Blackboard exercises are blurred, and the scholar answers to anything that has the appearance of what he sees, making the most amusing mistakes, and still goes on, no one suspecting the cause.

Not long ago a girl fourteen years of age came into my office right from school, who could not read the very largest letters of the alphabet, and I was informed by the sister that she, referring to the girl, was never any good at books. "Yes," said I, "and you would not be if you would part with your eyes."

All this seems strange; but it is true. Again, it is not alone the worse cases that are the most to be sought for, but it is those with small errors of refraction, where the nervous strain is such that they become pettish, as well as undermined in constitution, and serious diseases are the result. For these reasons, it is of first importance in sending scholars to school, if they are not doing good work, to have their vision tested by a competent person and see that they have a fair chance. These few lines may set some teacher or parent to thinking and result in good to a discouraged pupil.

Encourage Tree Planting.

To the Editor:—The planting season is now with us again, and our boys and girls should be urged and assisted by all the means in our power to plant forest trees. Those who have no land can take roadsides. The supervisors in every county of the State ought to appropriate prize money for the best grown trees along the highways of the county. Thirty years ago I could get trees for the digging up and leaving the land in good order for the plow. To-day it is hard to get wood at $6 per cord, and 12 or 14 inches in length at that. There is no more 16-inch wood in our parts. What trees are best to plant will depend much on the situation. I am much surprised and pleased with my English oak. I can recommend it as a fast grower on poor, dry mountain land. This hot, dry summer it made 4 feet 3 inches top and 3 feet 3 inches on the branches. I have the black, red and white oak and hickory under the same conditions, and none of them have done one-fourth as well. The native walnut beats them all. My neighbor has the chestnut doing well and bearing abundantly. The English walnut has too much die-back of the top to be profitable here. The olive does well on dry land and better on wet.

I got my English acorns from the University, with some other good things and some others not suited to my place; but I keep a-trying all the same. Robert Hastie.

Clayton.

DOMESTIC ECONOMY.

Hints to Housekeepers.

Broiled dried beef will pleasantly relieve the monotony of breakfast bacon. It may be served with or without poached eggs.

The fat from broth or soup can be easily removed without waiting for it to become cold by repeatedly drawing butchers' paper across the top.

All cut roasts of meat should be laid on the rack skin-side downward, that the lean side may be quickly seared over to prevent the escape of its juices.

If kerosene is rubbed, with a flannel cloth, on steel knives that have become rusty, and they are put aside for a day or two, the rust will be loosened and they may be very easily cleaned.

Oysters for frying should be washed in cold water, drained on a soft cloth and rolled in fine-seasoned bread crumbs, let lie fifteen minutes and fry in a wire basket in deep, smoking hot fat.

The rank flavor so generally disliked in mutton is decidedly less if the caul and pink skin-like substance that is about it is cut away. Then moisten the surface, rub thoroughly with flour or fine bread crumbs and roast.

A pot roast of beef is more perfectly browned before than after boiling. Rub the damp roast with sifted bread crumbs; fry to a rich brown on every side in the kettle in which it is to boil; then cover with boiling water and simmer gently—closely covered—until tender.

The flavor as well as the digestibility of the broiled or fried ham or bacon is improved if it is laid on warm butchers' paper and placed in the oven to drain the minute it is sufficiently cooked; serve on a hot platter, with a few drops of lemon juice squeezed over the top.

A pretty brown ware with a high glaze is now to be found at most of the house-furnishing shops and departments. Little individual baking dishes with handles are especially attractive, and the morning egg served in one of them takes on quite a fashionable air. There are also oval covered dishes for baked beans and various escallops. Little pitchers, oatmeal bowls and chafing dishes, too, are to be had. The ware is extremely durable as well as artistic.

Baked peaches were recently served and proved a rather unusual dish. The peaches were peeled and baked in a pan as apples are. A little sugar and water with a small piece of butter was added, making a syrup that was used to baste them with. They were cooked tender and served cold, with syrup jellied around them. Whipped cream was sent around with the dish, the value of which rests in the fact that fruit which is not ripe enough to be offered in its natural state may be used in this way.

Domestic Hints.

Frozen Almond Custard.—A half-pound of blanched almonds, to which six tablespoonfuls of sugar have been added, mixed with a custard made of the yolks of four eggs and a pint of sweetened milk, will make a delicious dish. When the whole is cold pound it to a paste, adding a quart of cream. After straining this put it into a freezer until ready to serve.

Apple Sauce for Roast Fowls.—Quarter and core tart apples, bake until tender in stock seasoned with salt, white pepper, stick cinnamon and a little cayenne, and press through a fine sieve; when cool beat with a wire egg whip until light, add the stiffly beaten whites of eggs, allowing two to each pint, beat well together and heap in a pretty serving dish.

Charlotte Russe.—Soak a tablespoonful of gelatine in two tablespoonfuls of cold water, then dissolve over hot water and add to a custard made of the yolks of two eggs, two tablespoonfuls granulated sugar and a cup of milk. Beat until cool. Whip the whites of two eggs until stiff, stir in slowly a cupful of sifted powdered sugar, add to the cooled custard, flavor with vanilla, and lastly mix in carefully a cupful of cream whipped until stiff and dry. Fill into the prepared loaf and serve very cold.

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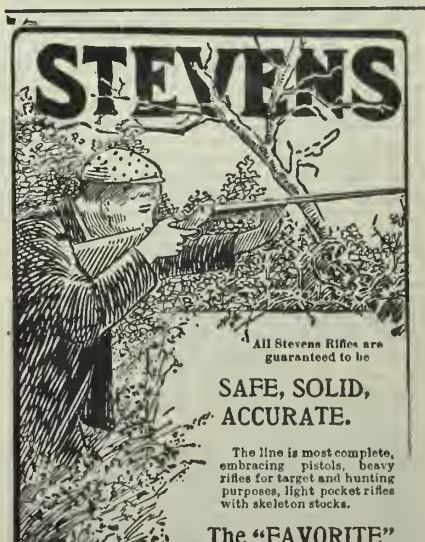
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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 28, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	67⅜@67⅛	71⅝@71⅜
Thursday	67 @66⅛	71⅛@70¾
Friday	66⅝@65¾	70⅞@70¼
Saturday	*——@——	——@——
Monday	65¼@65⅛	69¾@70
Tuesday	——@——	——@——

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	5s 9¼d	5s 11¼d
Thursday	5s 8¾d	5s 10⅝d
Friday	5s 8¼d	5s 10¾d
Saturday	-s --d	-s --d
Monday	5s 7⅝d	5s 9⅞d
Tuesday	-s —d	-s —d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	$1 01¼@1 00¾	1 09⅝@1 08¾
Friday	1 00 @ 98½	1 07⅝@1 06¼
Saturday	*——@——	——@——
Monday	97¾@ 98	1 05¾@1 06¼
Tuesday	——@——	——@——
Wednesday	——@——	——@——

*Adjourned.

Wheat.

Values for wheat in all positions and in all centers have been on the down grade the past week, and from same causes previously stated: Poor foreign demand, high freights, light supply of tonnage, good crop prospects, increase in the visible supply, amounting to 1,836,000 bushels in the United States, and last but by no means least, the advantage of the opportunity taken by speculative bears to hammer values down to the lowest possible figure. Chicago options declined 1¾c. per bushel. Liverpool futures dropped the equivalent of 2¾c. per cental, and on the local Call Board the depreciation was over 3c. per cental for December and fully 3c. for May. In the spot market the price of No. 1 shipping dropped 1¼@2¼c. below the $1 mark, and only choice to select milling was readily salable over a cent per lb. Were there any active demand, this depression could not be maintained.

While the wheat market presents very little of an encouraging character, there is good prospect of an increased outward movement from this port at an early date, and although it will be at comparatively high freight rates, it is considerably better than having a decrease in the export trade, which has been lately very light. Eight ships were added to the engaged list the past week, all chartered for wheat and a few having the privilege of barley, but most of these vessels are expected to carry full cargoes of wheat. The freight rates on charters to Cork for orders to United Kingdom, Havre, Antwerp or Dunkirk, ranged on iron ships from 27s. 6d. to 36s. 3d., the lower figure being on a prior arrival charter for a large ship, while the higher figure is for a handy bark, with the privilege given of carrying barley as part cargo. This makes the spot freight rate on straight wheat cargoes of good medium size 35s. to Europe, usual option as to final destination, the figure being equivalent to 37½c. per cental, or $8 40 per long ton. This is a profitable rate for ships, footing up fully $25,000 on the trip from here to Europe for a 3000-ton cargo, but wheat values have to suffer seriously in consequence. If the ocean freight rate was 25s., or $6 per long ton, making $18,000 instead of $25,000 freight money on a cargo of the size in question, shipowners would still be doing fully as well, or better, than is the wheat producer at present. Another item worthy of mention in connection with the wheat export trade is the chartering of a ship the past week to carry wheat to Cape Town, South Africa, the rate being £2, or about $9 65 per long ton. This voyage is more expensive than the one to Europe, and the freight rate is naturally higher. Further shipments may be made in this direction, and if this proves to be the case, the wheat market here may receive considerable benefit, especially for select milling wheat, which is the kind sought after for this South African trade. In the way of discouraging features, Russia and Argentina are still shipping wheat quite freely, although from the Argentine section the latest figures of exports show some decrease. The importing countries are buying slowly, having fair supplies now on hand. But the worst feature in the bearing of prices is the Chicago market, which takes the lead in the speculative field, and is run largely by bear cliques. At times like the present it is no trick at all to hammer speculative values down to ruinously low figures for the producer. There is no doubt this gambling on wheat values does great damage to the wheat-growing industry. No wheat is consumed in this gambling. It is simply piled up to prove in most instances a millstone around the necks of holders. Many in the trade who are interested in the welfare of the producer think this gambling on values of other people's property by a lot of shrewd schemers should be suppressed by National legislation. It would certainly be a wise move if every farmer in the United States insisted on the Government placing greater restrictions on this style of gambling than exist at present.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, $1.01¼@97¾c.

May, 1900, delivery, $1.09⅜@1.05¾.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at 99¼@98¾c; May, 1900, $1.06¾@1.07⅝.

California Milling	$1 00	@	1 05
Cal. No. 1 shipping, alongside	97½	@	1 00
Oregon Valley	95	@	1 02½
Walla Walla Blue Stem	90	@	1 02½
Walla Walla Club	80	@	1 02½
Off qualities wheat	75	@	90

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s10d@6s10½d	6s2d@6s2½d
Freight rates	26¼@27½s	33¾@35s
Local market	$1.16¼@1.18¾	$0.97⅛@1.01¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The market is lacking in strength, and bids fair to continue so for considerable time to come. Spot supplies are not extremely heavy, but are decidedly large as compared with the limited demand. Seldom has the wholesale trade been more quiet than at present. Buyers refuse to operate beyond immediate needs, even when offered moderate concessions from prevailing rates.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

The export movement of barley continues of liberal proportions, especially for this time of year. Three clearances of this cereal were made for Europe the past week, aggregating 5,480 tons and showing a valuation of about $110,000 This brings the export movement of the season up to 126,000 tons, as against 11,000 tons a year ago, and 122,600 tons for corresponding period in 1897. Ships were added to the loading fleet this week with privilege of carrying barley, so there is good reason to assume there will be further substantial increase to the exports of barley inside the next thirty or sixty days. Market for desirable shipping qualities is moderately firm at prevailing rates, with such stock in light supply in this center. Most of the purchasing on export account during the entire season has been done in the interior, and considerable of it at relatively better figures than were current here. Ordinary qualities of common feed are still being offered quite freely, as compared with the limited demand for this sort, and market for same lacks firmness. Some very poor barley is dragging badly and fails to command lowest quotations. Trading in options was confined to very narrow limits, with May barley particularly weak, owing to the bright outlook for the season of 1899, although the crop is by no means yet assured.

Feed, No. 1 to choice	80	@	82½
Feed, fair to good	70	@	77½
Brewing, No. 1 to choice	90	@	97½
Chevalier, No. 1 to choice	1 05	@	1 10
Chevalier, No. 2	—	@	—

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, ——@——c.

December, 1899, delivery, 84½c.

May, 1900, —c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at 84½c; seller 1899, new, ——c.

Oats.

The market is lightly supplied with choice to select qualities of either white or colored oats, and for such stock values are being well maintained at the quoted range. Fancy Surprise oats are especially scarce, with sales reported up to $1 35, but this figure is slightly higher than is warranted as a regular quotation. Next to Surprise, fancy White command the best figures, selling as high as $1.30 in a small way. In the line of colored oats, choice Reds sell to best advantage, unless it be an exceptionally fine lot of Black Russian, which for seed purposes command a premium. Damaged lots show decided depreciation in quotable values, compared with prices ruling for select. As an illustration it is only necessary to state that for some Surprise oats which were by no means poor, but were considerably uader select, $1.16¼ was the best bid obtainable, while fancy brought $1.35 in a limited way.

White Oats, fancy feed	1 25	@	—
White, good to choice	1 15	@	1 22½
White, poor to fair	1 07½	@	1 12½
Gray, common to choice	1 10	@	1 20
Milling	1 15	@	1 25
Surprise, good to choice	1 20	@	1 30
Black Russian	95	@	1 07½
Red	95	@	1 20

Corn.

Owing to limited supplies, values remain at a comparatively high plane, but there will undoubtedly be more liberal offerings at an early date and an easier market. There is a large crop of Eastern corn this season, with the quality above the average, but it is too early for large consignments of new crop. Most of the corn now on market is in the hands of millers, and trade is confined to small jobbing operations.

Large White, good to choice	1 10	@	1 12½
Large Yellow	1 10	@	1 12½
Small Yellow	1 42½	@	1 45
Eastern Mixed	1 00	@	1 02½

Rye.

Market is fully as favorable to the selling and producing interest as last quoted. There are no large offerings and a very fair demand.

Good to choice, new	1 05	@	1 10

Buckwheat.

There is none arriving, but with local millers temporarily supplied through recent importations, they are not bidding the extreme figures of a few weeks ago.

Good to choice	2 00	@	2 10
Silverskin	—	@	—

Beans.

The market is not particularly active, but there is no lack of firmness, values remaining on fully as high plane as last quoted for good to choice stock. Rain-damaged or otherwise seriously defective beans will not command lowest quotation. There are, in fact, few buyers for latter sort at any price. A sailing vessel clearing the past week for London with mixed cargo took 1500 sacks Limas. It is not very long ago that shipments of this variety were first made to Europe as an experiment, but during recent years considerable quantities of Limas, as also Bayos and one or two other varieties, have been forwarded to Europe on orders. The first Limas sent to Germany met with indifferent reception, and after remaining there many months, with only a very small portion of the consignment diverted to consuming channels, the beans were ordered back to this country and were landed in New York City. They were then shipped to Rochester, New York, where they had been sold by sample. Upon arrival at latter destination they were rejected, and were ordered by the owner re-shipped to New York City. The party rejecting then accepted the beans, failing to make his plan work of securing them at a lower figure. After being moved over 13,000 miles they were, strange to relate, sold at a profit over and above original cost and all carrying expenses.

Pea, fair to good, 100 lbs	2 75	@	3 00
Small White, good to choice	2 75	@	3 00
Lady Washington	2 25	@	2 40
Butter, small	3 75	@	4 00
Butter, large	—	@	—
Pinks	2 50	@	2 75
Bayos, good to choice	3 10	@	3 35
Reds	3 75	@	4 00
Red Kidneys	3 00	@	3 50
Limas, good to choice	4 85	@	5 00
Black-eye Beans	4 50	@	4 75
Horse Beans	—	@	—
Garbanzos, large	2 50	@	2 75
Garbanzos, small	2 00	@	2 25

Advices by recent mail from New York give the following review of the bean market, prices quoted being per 60-lb bushel:

The market has shown no new features of importance this week. Offerings have been light and with a fair trade tone has ruled firm with prices showing little change, except on small white beans which have advanced slightly toward the close. State and Michigan Pea in barrels sold quite generally at $1.87½ early in the week but $1.90 is now generally asked with enough business reported at that to establish it as an outside quotation; bags had a few sales at $1.82½ first of the week but $1 85 has generally been asked with that figure well established at the close and holders are asking a trifle more money. Medium sold at a $1.90 until Wednesday when enough stock was purchased at $1.92½ to place the market on that basis. Marrow have been rather quiet but well sustained in sympathy with small beans and at the close a little better trade is reported; best old are generally held at $2.15 and new $2.05@$2.10. White Kidney very scarce and firm. Red Kidney have ruled easy in absence of important export demand and close a shade lower. Yellow Eye quiet, and also Black Turtle Soup. California Lima are slow under quite free offerings with top quotation somewhat extreme; quotable $3.30@3.35. Green and Scotch Peas have been well sustained with demand a little better toward the close.

Dried Peas.

There are not many arriving, and with fair demand, the market inclines in favor of sellers. Niles of prime to choice quality are selling to relatively better advantage than the Green dried pea, being this season in scantiest supply.

Green Peas, California	2 10	@	2 25
Niles Peas	1 85	@	2 00

Wool.

The strong tone previously noted as prevailing in the wool market continues to be experienced. The demand is active, both for scoured and grease wools, with recent sales of large proportions, mainly on Eastern account. Shipments by sea since July are nearly three times as great as for corresponding time last year, footing up nearly 3,000,000 lbs., as against less than 1,000,000 lbs. for same period in 1898 Most of this wool has gone by steamer to Victoria, thence via Canadian Pacific to the Atlantic seaboard. A shipment of 755,000 lbs. went forward by above route the past week, including 552,719 lbs. to Boston and 201,810 lbs. to New York. Of this latest shipment to Boston, 485 bales were grease wool, 255 bales scoured and 30 bales pulled. The wool going by same trip to New York was all scoured stock.

SPRING.			
Oregon Eastern, choice	12	@	14
Oregon Eastern, fair to good	10	@	12
Oregon Valley	15	@	17
FALL.			
Humboldt and Mendocino	14	@	15
Middle Counties	8	@	10
Northern, free	9½	@	11½
Northern defective	8	@	10
Southern Mountain	7½	@	8½
San Joaquin Plains	6½	@	7½
San Joaquin Lamb	8	@	9½

Hops.

The situation is without material change since previous review, the demand continuing slow, and almost wholly for choice to select, with bids at a low range. The hop which will command over 11c in this market at present has to be of exceedingly fine quality, and it is doubtful if 12c could be realized in other than a small way for the most select. Some dealers are trying to make it appear that the market is firm and active, thus intentionally misrepresenting the situation to get sellers' ideas exalted so as to prevent them unloading. If any one doubts the market's dullness, let him endeavor to sell a round lot of say 75 or 100 bales of good average quality.

Good to choice, 1899 crop	8	@	11

The following information concerning the hop market is from New York authority and comes through by recent mail:

Little if any change can be noticed in the general features. Brewers are not showing as much interest as would be naturally expected at this season of year, caused no doubt by so many contracts having been offered at 10@12c before the general quality of the crop was known and the mixed quality of most of the present offerings. We are more firmly confirmed in the opinion previously expressed that the poor picking has had an unfavorable effect on the general business. Very little doing here on export account for simple reason that few desirable grades are obtainable and exporters compelled to go to points of production to secure stock Full prices are reported paid in the country for choice hops, with rumors toward the close of 15c having been paid for exceptional quality though not verified. Business is reported on the Pacific coast from 7½ to 11½c for poor to choice grades. Latest foreign advices indicate little if any change in the situation on the other side.

Hay and Straw.

Values in the hay market are being poorly maintained for large bales at last quoted range, despite quite limited arrivals. Buyers on local account are taking hold very sparingly, not caring to anticipate in the least their future needs. The knowledge of the heavy quantities unplaced will undoubtedly cause the market to drag throughout the season for the average run of offerings baled for home use. Compressed hay for export has been lately faring relatively better than the ordinary bales, the former being in lighter supply as compared with the demand than the latter. Straw was not in heavy supply and sold in a limited way to fair advantage.

Wheat	7 00@	9	50
Wheat and Oat	7 00@	9	00
Oat	6 50@	8	50
Barley	6 00@	7	00
Alfalfa	5 00@	7	00
Timothy	——@	——	
Compressed	7 00@	9	50
Straw, ₱ bale	30@	45	

Millstuffs.

Bran and Shorts show further reduction in price, with market weak at the decline noted. Middlings inclined against sellers, especially for other than select, quotations being at a wider range. Market for Rolled Barley presented an easy tone. Lower prices for Milled Corn are anticipated at an early day.

Bran, ₱ ton	15 00@	16	00
Middlings	16 00@	19	00
Shorts, Oregon	14 00@	16	00
Barley, Rolled	17 00@	17	50
Cornmeal	23 50@	24	00
Cracked Corn	24 50@	25	00

Seeds.

Nothing new to note in market for Mustard Seed, stocks being practically closed out. Flaxseed was in liberal receipt this week, the consignments representing mainly prior arrival purchases. Stocks of Alfalfa Seed have been slightly increased by recent arrivals, but market is not quotably lower.

	Per ctl	
Mustard, Trieste	3 25@	3 50
Mustard, Yellow	4 25@	4 50
Flax	2 00@	2 25
	Per lb	
Canary	3½@	4
Rape	2 @	3
Hemp	4 @	4½
Timothy	4 @	4½
Alfalfa, Utah	8½@	9

Bags and Bagging.

There is no activity to record and not likely to be much business during the coming month. Values are without quotable change, but are necessarily largely nominal. For coming season's Calcutta Grain Bags 6@6¼c ex-ship are the figures talked of as asking rates, the higher price being for early deliveries.

Calcutta Grain Bags	6½@ 7
San Francisco Grain bags, 22x36, spot	6½@ 7
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@28
Gunnies	—@12½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	6¼@ 7

Hides, Pelts and Tallow.

Hide market is firm at the advance of last week, some sales of very desirable stock being made at slightly higher figures. Pelts are commanding unchanged rates and are selling about as rapidly as received. Tallow is not in active request, neither is the market firm, but in quotable values there are no changes to record.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.		Culls.	
Heavy Steers, over 56 lbs	11½@—		10½@—	
Medium Steers, 48 to 56 lbs	10½@—		9½@—	
Light Steers, under 48 lbs	10 @—		9 @—	
Heavy Cow Hides, over 50 lbs	10½@—		9½@—	
Light Cow Hides, under 50 lbs	10 @—		9 @—	
Wet Salted Kip	10 @—		9 @—	
Wet Salted Veal	10 @—		9 @—	
Wet Salted Calf	11 @—		10 @—	
Dry Hides	18 @—		14 @—	
Dry Kip and Veal, 11 to 16 lbs	16 @—		13 @—	
Dry Calf, under 4 lbs	18 @—		15 @—	
Salted Horse Hides, large	2 50	@	—	
Salted Horse Hides, medium	2 00	@	—	
Salted Horse Hides, small	1 00	@	—	
Dry Horse Hides, large	2 00	@	—	
Dry Horse Hides, small	75	@	1 00	
Dry Colts' Hides	50	@	75	
Pelts, long wool, per skin	90	@	1 25	
Pelts, medium, per skin	60	@	75	
Pelts, short wool, per skin	30	@	50	
Pelts, shearling, per skin	20	@	35	
Deer Skins, best summer	27½	@	30	
Deer Skins, good medium	20	@	22½	
Deer Skins, thin winter	—	@	10	
Elk Hides	10	@	12	
Tallow, good quality	4½	@	5	
Tallow, No. 2	4	@	4½	
Goat Skins, perfect	30	@	37½	
Goat Skins, damaged	10	@	20	
Kid Skins	5	@	10	

Honey.

Market shows little life, more the result of limited supplies and generally stiff asking figures than of lack of inquiry from buyers. There is no likelihood of any special weakness

being developed during the halance of the season.

Extracted, White Liquid	7½	@	8
Extracted, Light Amber	7	@	7½
Extracted, Amber	5	@	5½
White Comb, 1-lb frames	11½	@	12½
Amber Comb	8	@	10

Beeswax.

Former conditions and same quotahle rates previously noted continue to prevail. Dealers are ready and anxious to take all the good to choice wax offering at current figures.

Good to choice, light, ₱ lb	26	@	27
Dark	24	@	25

Live Stock and Meats.

Values for Beef continued on ahout same lines as for a fortnight or more preceding, with market moderately firm for best qualities. Veal brought generally unchanged figures, with offerings rather light for this time of year. Mutton and Lamh sold at as good average prices as for some weeks preceding. Hogs did not arrive in sufficient quantity to cause the market to incline in favor of huyers, most of the receipts heing required for immediate use.

Beef, 1st quality, dressed, net ₱ lb	7	@	7¼
Beef, 2d quality	6½	@	7
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wetbers	6½	@	7
Hogs, hard grain fed, medium	5½	@	5⅝
Hogs, small, fat	5⅝	@	5½
Hogs, large hard	5½	@	5¼
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ₱ lb	7	@	9
Veal, large, ₱ lb	8	@	—
Lamb, spring, ₱ lb	8	@	8½

Poultry.

The main feature of the poultry market the current week was the Turkey trade on account of Thanksgiving. While the national bird was largely in evidence from the East and from Oregon, as also from numerous points in this State, the supply of choice Turkeys was not excessive, a large proportion heing in poor flesh. Dressed stock naturally received the most attention. There was a tolerahly wide range in prices, some very select selling above quotations, while very inferior, such as accumulations of rejections, were closed out at less than lowest figures helow noted. Broilers met with fair custom and brought comparatively good prices, as did also young Pigeons. Market for all other poultry ruled quiet.

Turkeys, Dressed, ₱ lb	15	@	18
Turkeys, live young, ₱ lb	14	@	15
Turkeys, live hens, ₱ lb	13	@	14
Turkeys, live gobblers	13	@	14
Hens, Cal., ₱ doz	4 00	@	5 00
Roosters, old	4 00	@	4 50
Roosters, young, (full-grown)	4 50	@	5 00
Fryers	3 75	@	4 00
Broilers, large	3 50	@	4 00
Broilers, small	3 00	@	3 50
Ducks, ₱ doz	4 00	@	6 00
Geese, ₱ pair	1 75	@	2 00
Goslings, ₱ pair	1 75	@	2 00
Pigeons, Old, ₱ doz	1 00	@	—
Pigeons, Young	2 00	@	2 25

Butter.

The market for hest qualities of fresh presented a better tone, with demand improved, stocks less excessive and prices quotably higher than for a week or two preceding. In packed descriptions there are no quotahle changes. Some Eastern tub has been shipped hack to the Atlantic side of the country, the market there heing in hetter shape than here.

Creamery extras, ₱ lb	26	@	—
Creamery firsts	25	@	—
Creamery seconds	24	@	—
Dairy select	24	@	—
Dairy seconds	19	@	22
Dairy, soft and weedy	—	@	—
Mixed store	14	@	16
Creamery in tubs	18	@	21
Pickled Roll	—	@	—
Firkin, Cal., choice to select	19	@	22
Firkin, common to fair	16	@	18

Cheese.

While not quotahly lower, the market is hardly so firm as for a month or more past. Some of the large handlers are quite well stocked for this time of year, even with new product, and are ahle and willing to accommodate more trade than they are favored with.

California fancy flat, new	12	@	—
California, good to choice	10½	@	11½
California, fair to good	10	@	11
California Cheddar	—	@	—
California, "Young Americas"	10½	@	12½

Eggs.

The stiff prices lately demanded for strictly fresh caused huyers to take hold very slowly, the vast majority of retailers and consumers confining themselves wholly to cold-storage stock. Arrivals of fine fresh were not large, but they were on the increase and the market ruled less favorable to sellers, prices in some instances heing reduced 2½c or more per doz. rather than miss sales. Cold storage eggs continue in liheral supply and low in price.

California, select, large white and fresh	42½	@	—
California, select, irregular color & size	35	@	40
California, good to choice store	26	@	31
Eastern, as to section and grading	20	@	26
Eastern, cold storage	17	@	20

Vegetables.

There were no heavy offerings of desirahle qualities of any variety, and the general trend of values was upward. Especially was the market firm for choice Green Peas and String Beans, with sales up to 10c per pound. Onions of fine quality were in light stock and higher. Choice Tomatoes were not plentiful and brought fair figures, hut common qualities continued to be a drug.

Beans, String, ₱ lb	7	@	9
Beans, Lima, ₱ lb	5	@	7
Cabbage, choice garden, ₱ 100	50	@	60
Cauliflower, ₱ doz	50	@	—
Cucumbers, Alameda, ₱ large box	50	@	75
Egg Plant, ₱ lb	8	@	10
Garlic, new, ₱ lb	3½	@	5
Mushrooms, Buttons, ₱ lb	15	@	—
Musbrooms, wild, ₱ box	5	@	10
Okra, Green, ₱ box	1 25	@	1 50
Onions, Yellow, good to choice, cental	90	@	1 10
Peas, Sweet, Garden, ₱ lb	6	@	8
Peppers, Green Chile, ₱ box	40	@	75
Peppers, Bell, ₱ large box	50	@	85
Squash, Marrowfat, ₱ ton	8 00	@	12 00
Squash, Summer, ₱ box	1 00	@	1 25
Tomatoes, River, ₱ box	25	@	50
Tomatoes, Bay, ₱ box	40	@	75

Potatoes.

In quotahle rates there were no special changes, hut market was rather quiet and for other than choice qualities there was a lack of firmness. Shippers having only common stock are not likely to fare very well in this center for some months to come. Consignments of choice Burhanks, however, will likely meet with a good market. Sweets went at about same range of values as last quoted.

Burbanks, River, ₱ cental	50	@	75
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	70	@	1 10
Burbanks, Oregon	60	@	1 10
River Reds	50	@	70
Burbanks, Salinas, ₱ cental	1 00	@	1 25
Sweet River, ₱ cental	75	@	1 00
Sweet Merced	1 00	@	1 10

The Fruit Market.

Fresh Fruits.

Apples are the chief feature in the market for fresh fruit, aside from citrus stock, and this must continue to be the case for several months to come. Choice to select Apples are not plentiful, and are meeting with very good custom, commanding in some instances an advance on hest figures warranted as a quotation. Common qualities continued plentiful and cheap. Fancy qualities of Apples for immediate use as tahle fruit commanded in a limited way $1.50 per box more readily than did ordinary cooking stock 35@50c. Lady Apples have put in an appearance, and in fairly liheral quantity, hut it is the exception where they are sufficiently colored and bright and waxy to he sought after for ornamental purposes, which is their chief use and for which they command the hest figures. In fact, where not desirahle for ornamentation, they have to sell down on a par with other Apples of common quality. Pears were in light stock, hut other than choice table fruit received very little attention. Select Winter Nelis sold in a small way up to $1.50 per box. Common cooking Pears went mainly within range of 50@75c per hox, and were not in active request at these figures. Grapes made a moderate showing, mostly out of stocks in cold storage. A few in superior condition brought comparatively high prices, some crates selling up to $1, hut most of the husiness was within range of 60@75c per crate. Persimmons were in fairly liheral supply, with most of the transfers at a comparatively low range, 40@65c per hox covering the prices realized in majority of instances. Pomegranates moved as slowly as previously noted, and it was the exception where extreme quotations or anything near thereto were obtainahle. In the line of Berry fruit, Strawherries made a fair display and for hright and clean stock generally good figures were realized. Raspherries were in very moderate receipt and sold to fair advantage. Cranherries were in good request, as is generally the case Thanksgiving week; values were without appreciahle or quotable change, the Oregon product going at $1.50@2.00 per hushel box, while Eastern ranged from $7 50@10.00 per harrel, the latter figure heing for fancy Cape Cod.

Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ₱ 50-lb. box	75	@	90
Apples, common to fair, ₱ 50-lb. box	35	@	60
Apples, Lady, ₱ box	75	@	1 50
Grapes, Black, ₱ crate	60	@	90
Grapes, Muscat, ₱ crate	60	@	90
Grapes, Tokay, ₱ box, 50@75c; ₱ crate	65	@	1 00
Grapes, Cornichon, ₱ crate	65	@	1 00
Grapes, Isabella, ₱ crate	75	@	1 00
Pears, Winter Nelis, ₱ box	75	@	1 25
Pears, cooking varieties, ₱ box	50	@	75
Persimmons, ₱ box	50	@	75
Plums, ₱ box	50	@	75
Pomegranates, ₱ box	50	@	90
Quinces, ₱ box	—	@	—
Raspberries, ₱ chest	—	@	—
Strawberries, Longworth, ₱ chest	10 00	@	11 00
Strawberries, Large, ₱ chest	3 00	@	5 00
Whortleberries, ₱ lb	4	@	7

Dried Fruits.

In the matter of quotahle values, the market for cured and evaporated fruits presents no special changes for the week under review, hut trade is quiet, heing of insignificant volume in a wholesale way or in offerings from first hands, while jobbing transactions aggregate very small proportions. It is fortunate for both the producer and jobber that stocks of most kinds are light, especially light in the hands of the producer, outside of Prunes and Peaches. The stock of Peaches remaining is variously estimated at from 100 to 200 carloads, but it is simply guesswork. A leading handler, who is in a position to be as well posted as it is possible to be, states that there is so little definite information on this point that he would not even venture a guess. Certain it is that the market at present lacks strength, and while not quotably lower, only at reduced figures could noteworthy transfers he effected. A serious check to any special movement in this center is that most of the Eastern markets are still fairly stocked with early purchases and are relatively lower than the local market. The Prune market is dull, and for other than small sizes of which there are so few as to he hardly quotable, there is pronounced weakness, more particularly for the large sizes. The medium sizes can he forced to sale by making concessions to huyers, hut immediate custom for the large sizes seems impossible to secure in noteworthy manner. Small and medium sizes enter into consuming channels mainly on account of their cheapness as a food product, but the large Prune is taken more as a luxury and demand for it is naturally less extensive. Many look forward to a renewal of inquiry for this fruit after the Christmas holidays, with a possibility of hetter values than are now nominally current. Apple market is slow and shows more tendency in favor of buyers than earlier in the season. Figs continue to move slowly, with supplies in second hands larger than it is desirahle to have them at this date. Apricots are in such light stock as to he practically closed out. Pears are in very limited supply. Plums are not obtainahle in large quantity. Values for last two varieties are ruling steady.

Nitrate of Soda as a Fertilizer.

SICK CROPS

—the faded out, yellow kind that are not doing well may be instantly revived by the application of a dressing of

NITRATE OF SODA.

It acts at once because it is very soluble. This makes it instantly available as plant food; 100 to 200 lbs. per acre is sufficient for most crops.

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——FOR SALE BY——

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316 California Street, - - - San Francisco, Cal.

Write to them for pamphlets.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12½
Apricots, Royal, fancy	12½	@	13½
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½	@	8
Apples, 50-lb. boxes, rings, pressed, good to choice	7	@	7½
Figs, White, fancy pressed	7½	@	8½
Peaches, unpeeled, good to choice	5½	@	6½
Peaches, unpeeled, fancy	7½	@	8½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	10	@	11
Pears, halved, unpeeled Bartletts	8	@	9
Pears, quartered, unpeeled Bartletts	7	@	8
Plums, Black, pitted	7	@	8
Plums, White and Red, pitted	8	@	10
Prunes, in sacks, 40—50's	4	@	4½
50—60's	3½	@	3¾
60—70's	3¼	@	3½
70—80's	3	@	3¼
80—90's	2½	@	2¾
90—100's	2	@	2½
110—130's	—	@	—

Prunes in boxes, ½c bigher for 25-lb boxes, ¼c bigher for 50-lb boxes.

4 sizes Santa Claras and equal	2¾	@	3
4 sizes San Joaquin and Northern	2¼	@	2½
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4½	@	5½
Apples, quartered	4½	@	5½
Figs, Black	6	@	6½
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Late advices by mail from New York furnish the following review of the dried fruit market in the East:

Evaporated apples have shown no improvement this week; jobbing trade has been a little more active and exporters have shown a fair amount of interest, but offerings have been fully equal to all demands and with stock offering for future delivery at lower figures than now current and with holders at primary sections urging stock for immediate shipment at low prices, 7¼@7½c has been all that could be realized for prime, and some sales have been made fractionally lower. Choice and fancy are not very plenty and jobbing fairly in range of 8@9c, occasionally lower and higher. Small sales of fancy sun-dried sliced apples have exceeded 6c but that figure has generally been extreme, most sales making from 5@5¾c with some stock lower; quarters have ruled firm at 4½@5½c. Chops weak and not exceeding 2c, and cores and skins have continued dull at 1¾c though holders generally asking a trifle more. Small fruits are in limited supply, in few hands and generally held high. California fruit has met a very fair jobbing demand at about former range of prices.

Apricots, Cal. Moorpark, 1899, per lb	15	@	17½
Apricots, Cal. Royal, 1899, per lb	13	@	14
Peaches, Cal., 1899, peeled, per lb	18	@	22
Peaches, Cal., 1899, unpeeled, in boxes, lb.	8½	@	9
Peaches, Cal., 1899, unpeeled, in bags, lb.	8	@	9
Prunes, Cal., 1899, per lb	3½	@	7

Raisins.

The market is strong, with good demand, and the season's output gives promise of being soon exhausted. There is no trouble to secure orders, but a question of being ahle to fill them. Valencias are now practically unobtainable, and stocks of high grade Muscatels, layers or loose, are exhausted in first hands, with few to be found even among the retail trade. Pacifics and Orientals and the cheaper grades of standard loose Muscatels constitute present supplies in wholesale hands, and are of light volume.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ₱ box	$3 00	@	—
Do do 5-crown, ₱ box	2 50	@	—
Do do 4-crown, ₱ box	2 00	@	—
Do do 3 crown, ₱ box	1 60	@	—
Do do 2-crown, ₱ box	1 50	@	—
Valencia layers, ₱ 20-lb box	80	@	1 00

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ₱ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, seedless	5	@	—

Pacifics.—2-crown loose Muscatel, 5½c; 3-crown, 6c; 4-crown, 6½c; seedless, 4¾c.

Orientals.—2-crown loose Muscatel, 4¾c; 3-crown, 5½c; 4-crown, 6c.

(Above prices for loose raisins are for 50-lb. boxes.)

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ₱ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ₱ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Orange market is very liberally stocked for Thanksgiving time, but it is the rare exception where the fruit is ripe, and on this account the movement is slow, with concessions to buyers the rule rather than the exception. Lemon market is without improvement, either in demand or in quotahle values. Grape Fruit continues in poor request. Limes are plentiful and cheap.

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For COUGHS and COLDS.
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WOOL, GRAIN, FLOUR
——AND——
General Commission Merchants,
310 CALIFORNIA ST., S. F.
Members of the San Francisco Produce Exchange.

☞Personal attention given to sales and liberal advances made on consignments at low rates of interest.



Oranges—Navels, ₱ box	2 50	@	3 00
Cal. Seedlings	1 50	@	2 00
Cal. Tangerine, ₱ box	—	@	—
Grape fruit, ₱ box	1 50	@	3 00
Lemons—Cal., select, ₱ box	3 00	@	3 50
Cal., good to choice	2 00	@	2 50
Cal., common to fair	1 00	@	1 50
Limes—Mexican, ₱ box	4 00	@	4 50
Cal., small box	75	@	1 25

Nuts.

Stocks of both Almonds and Walnuts are virtually out of the hands of producers, but stocks held by jobbers are not cleaning up as rapidly as desired or expected, and general tone of the market is easier. Peanuts are in light supply and values steady.

California Almonds, shelled	22	@	24
California Almonds, paper shell, ₱ lb	11	@	12
California Almonds, soft shell	10	@	11
California Almonds, hard shell	6½	@	7½
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	11	@	11½
Wainuts White, Cal., standard	9½	@	10½
Chestnuts, Cal. Italian	10	@	12½
Peanuts, Cal., fair to prime	4½	@	5½
Peanuts, Eastern hand-picked	6	@	7½
Pine Nuts	5	@	6

Wine.

There is nothing new to report in the wholesale market, the only noteworthy trading at present being in transfers to exporters and jobbers, and business in this line is not brisk. This year's vintage will not be ready for market for a month or two, and in the meantime values for 1899 wine will continue undefined. Dry wines from one to three years old remain nominally quotable at 15@20c per gallon, San Francisco delivery. The California Wine Growers' Association is winding up its affairs and will soon pass out of existence, leaving the market in much better shape than when it organized. Owing to reduced production on account of ravages of phylloxera, this season's wine should bring good prices. The ship Arthur Sewall, sailing Monday for London, carried 50,440 gallons wine.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	102,951	2,234,484	1,974,345
Wheat, ctls	44,890	1,738,906	1,341,496
Barley, ctls	60,910	3,280,488	694,353
Oats, ctls	18,755	428,446	405,015
Corn, ctls	4,350	51,595	75,765
Rye, ctls	30	76,617	14,530
Beans, sks	21,183	253,366	256,213
Potatoes, sks	27,567	532,963	502,064
Onions, sks	2,730	97,082	100,665
Hay, tons	2,725	82,585	73,184
Wool, bales	795	33,298	26,774
Hops, bales	355	6,171	9,367

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	92,128	1,271,747	1,249,500
Wheat, ctls	18,751	1,413,320	658,226
Barley, ctls	101,696	2,508,008	217,046
Oats, ctls	648	22,342	11,471
Corn, ctls	106	7,099	8,449
Beans, sks	12	9,801	62,057
Hay, bales	2,318	47,144	27,210
Wool, lbs	754,529	2,891,189	954,918
Hops, lbs	291	443,387	824,158
Honey, cases	244	2,749	4,187
Potatoes, pkgs	3,749	32,035	23,499

California Dried Fruit at New York

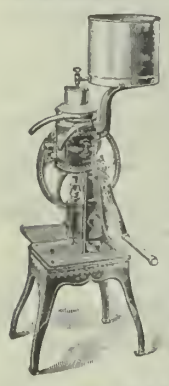
NEW YORK, Nov. 28.—California dried fruits; Market quiet and steady. Evaporated apples, common, 6@7c; prime wire tray, 7¾@8c; choice, 8¼@8½c; fancy, 8½@9c.

Prunes, 3½@8¼c.

Apricots, Royal, 13@15c; Moorpark, 15@18c.

Peaches, unpeeled, 7½@10c; peeled, 20@22c.

NEW 20TH CENTURY CREAM SEPARATORS



Sept. 1st marked the introduction of the improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators and these newest "Alpha" disc machines are simply unapproachable by anything else in the shape of a cream separator. Overwhelming as has been the conceded superiority of the De Laval machines heretofore their standard is now raised still higher and they are more than ever placed *in a class by themselves* as regards all possible competition. Send for new catalogue.

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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING NOVEMBER 14, 1899.

636,742.—BANDAGE—J. N. Armstrong, Soldiers' Home, Cal.
636,944.—WAGON COUPLING—O. L. Beckett, Orting, Wash.
636,747.—FLUME—J. A. Blake, Redlands, Cal.
637,077.—HYDRANT—C. L. Burkhart, Dayton, Wash.
636,753.—CULTIVATOR—D. G. Burkhart, Dayton, Wash.
637,081.—CUPEL—A. C. Calkins, Los Angeles, Cal.
636,754.—THRASHER—E Campbell, Dayton, Wash.
636,765.—CUFF SUPPORTER—P. E. Daniels, Oakland, Cal.
636,786.—INHALER—L. M. Francis, Phœnix, A. T.
636,972.—RULE—J. H. Franklin, S. F.
636,788.—GOPHER TRAP—F. W. French, Lakeside, Cal.
637,202.—SPEED CHANGING MECHANISM—J. C. des Granges, Los Angeles, Cal.
636,983.—PLANE—C. E. Hanson, S. F.
637,204.—BALL BEARING—F. W. Heath, Tacoma, Wash.
637,205.—BALL BEARING—F. W. Heath, Tacoma, Wash.
637,206.—BALL BEARING—F. W. Heath, Tacoma, Wash.
636,989.—QUICK BREAK ELECTRIC SWITCH—R. B. Hewson, S. F.
636,992.—MAIL BOX TIME INDICATOR—Hoagland & Richardson, Oakland, Cal.
635,993.—MAIL BOX TIME INDICATOR—Hoagland & Richardson, Oakland, Cal.
636,995.—GRAVEL WASHER—Horr & Gibbons, Jackson, Cal.
636,910.—ELECTRIC ALARM—R. R. May, San Jose, Cal.
636,920.—WEIGHING SCOOP—B. McKiernan, Stockton, Cal.
636,843.—PLUMB LEVEL—J. E. Ramsey, Oakesdale, Wash.
637,036.—POLE SUPPORT—M Seblehtl, North Yakima, Wash.
637,169.—SNAG HOOK—H Slotterback, Los Angeles, Cal.
637,181.—PROPELLER—A. Sweetland, Los Angeles, Cal.
31,826.—DESIGN—B. Sebmalitz, Diamond, Cal.
31,819.—DESIGN—Shipman & Morcom, Baker City, Or.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

Diplomas Awarded to Van Der Naillen's Engineering School Students.

SAN FRANCISCO, CAL., Nov. 11, 1899.

The A. Van der Naillen School of Engineering, 933 Market street—GENTLEMEN: I take pleasure in informing you that diplomas have been awarded to the following students at your school for their drawings exhibited in your exhibit at the recent Mechanics' Fair:

To the A. Van der Nailen School of Engineering students for working models of engine and boiler: Guy A. Dunne, for Keith motor; H. C. Adair, for Corliss engine; F. A. Gawthorne, topographical map; Fred G. Kellett, 40-stamp mill; Joseph Levensaler, dynamo commutator. To the students for working model of electrical trolley car: George von Boden, American locomotive; A. Gawthorne, underground mining. Yours respectfully, JOSEPH M. CUMMING, Secretary Mechanics' Institute.

Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

MAIL BOX TIME INDICATOR.—E. M. Hoagland and D. S. Richardson of Oakland, Cal., Nos. 636,992. 636,993. Dated Nov. 14, 1899. Assignors to the Montague Indicator and Letter Box Co., San Francisco, Cal. The object of this invention is to provide a means for giving important information to the public in a clear and concise manner, also to act as a detector and check and furnish a box-testing system by which the movements and faithfulness of postal employees can be ascertained. It consists of a main chamber for mail matter, an independent chamber or chambers in front of said main chamber, a front chamber having a transverse open slot through its front. Rollers are journaled in the upper and lower portions of this chamber, and an endless belt, consisting of chains and slots or sections bearing dates of collection thereon, are caused to travel across this slot. The door, which is opened for the purpose of collecting the mail from the box, is connected with mechanism which advances this chain belt in such a manner that a new section of the belt will be exposed before the slot by each opening and closing of the door, and this section indicates the time of the next collection, also the outgoing mail by which the letters will be carried away. Devices are arranged for showing the collections for holidays and Sundays, which differ in number from ordinary week days, and means for preventing the movement of the belt during such dates.

QUICK BREAK ELECTRIC SWITCHES.—Robert B. Hewson, San Francisco, Cal. No. 636,989. Dated Nov. 14, 1899. Assignor of one-half interest to Austin Kanzee, of same place. The object of this invention is to make and break the electric circuit in which it is placed by a sudden or snap movement for the purpose of reducing sparking and consequent injury to the contacts. The invention consists of a lever mounted upon an insulated base having one end connected with one of the terminals and the other movable between compressing plates which are connected with the other terminal, the connection consisting of a sliding cylinder movable in a tube, with which the second terminal is connected, and having a spring connection by which, when the contact is broken by the withdrawal of the lever from between the plates, the parts are moved in opposite directions with a sudden movement.

SWIVEL PLANE SUPPORT AND HANDLE.—Carl E. Hanson, San Francisco, Cal. No. 636,983. Dated Nov. 14, 1899. This invention relates to a device for suspending a plane within an operating handle, so as to give it a universal movement with relation to its support. It is particularly adapted for planing floors and the like. The plane has socket pieces fixed at each end in a longitudinal axis, and an enclosing frame has fixed pins adapted to enter the sockets, so that the plane may pivot transversely thereon. To the sides of this frame the forked end of a handle is fulcrumed so that the handle may be moved up and down with relation to the frame and the plane, the two movements thus provided forming a universal movement, which will allow the plane to be pushed over the surface and maintain its own parallelism regardless of the irregularity of movement of the handle.

RULE.—J. H. Franklin, San Francisco, Cal. No. 636,972. Dated Nov. 14, 1899. In this invention a marking device is attached to the end of the rule, so that when the rule is repeatedly moved as in measuring considerable lengths, the end of each measurement is marked without the use of a pencil or other marking device. This marker consists of an elastic plate fixed to one end of the rule, having its end bent to lie in the plane of the end of the rule and projecting slightly beyond. The edge being made sufficiently sharp to make a mark at the termination of each measurement so that in repeated measurements in a line, the total will be more accurately ascertained than when an exterior marking device is used.

CLAY OR GRAVEL WASHING MACHINES.—W. B. Horr and C. H Gibbons, Jackson, Cal. No. 636,995 Dated Nov. 14, 1899. This apparatus is designed for washing clay or gravel which contains valuable or precious metals, and separating the latter from the clay or gravel. It consists of an inclined cylinder composed of longitudinal interspaced bars and having one end made conical, and of imperforate material. A neck forms a prolongation of this conical end and is formed of parallel interspaced bars which serve as a final screen for any material which passes over the imperforated portion. In conjunction with this cylinder is employed an inclined segmental trough having an end and an extension conforming to the cylinder and its discharge end. The trough has a transversely curved and gated depression near the junction of the imperforate section with the main body.

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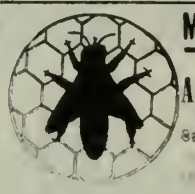


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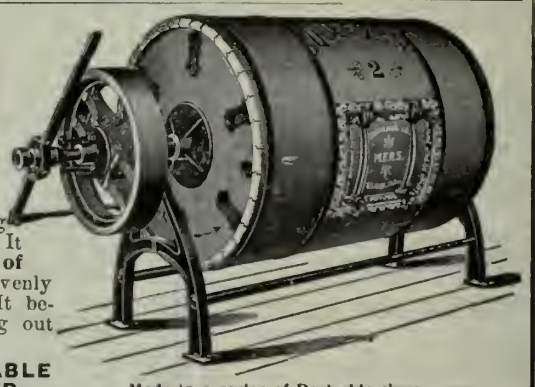


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Patrons of Husbandry.

The National Grange.

The National Grange meeting at Springfield, Ohio, brought out the statement that there was an increase of $10,000 last year in the funds and 35,000 new members. The chief subject under consideration was the regulation of trusts and very strong declarations were made, including the following:

We are not opposed to the association of interests which merely lessen the cost of production, but we are decidedly opposed to the misuse of the power which large combinations of capital give for the purpose of destroying competition, controlling production and arbitrarily dictating prices of commodities. We are opposed to all corporations or trusts which control the source of supply, and like the Standard Oil Company, reach out their arms and embrace all competition. Special favors are granted them by railroads, thus enabling them to undersell and force to the wall the smaller dealers who otherwise might compete with them. We encourage the investment of capital in every branch of legitimate industry and demand fair play. The expansion of our territory and commerce tends to increase the number of capitalized associations. The greed and selfishness which too often actuate men has become an element of danger and must be controlled. It must be made impossible for so-called trusts to accumulate millions by selling watered stock without adding to the wealth of the country.

Therefore we recommend:

First—Official inspection of all corporations, as in the case of national banks. No corporation should be tolerated whose books cannot bear inspection.

Second—Prohibition of all rebates or discriminations by public carriers.

Third—Taxation of all capital stock.

Fourth—All capital stock should be paid up in full.

Fifth—Severe penalties for violation of the law: (*a*) by forfeiture of charter, fine and imprisonment; (*b*) by impeachment, fine and imprisonment of all public officials whose duty it may be to enforce the law and who fail to perform that duty.

Suggestions—We would advise many petitions to Congress to pass remedial legislation along the lines above suggested.

We ask the members of our body to secure State legislation not in conflict with National laws, but suited to the peculiar requirements of their respective States. One of the greatest evidences of trusts is their power to control elections and corrupt officials. This can be remedied by educating the people. Meanwhile we must control by the strong arm of authority. One principal worthy of consideration has been thus stated.

Whenever monopolies are based upon the acquisition of nearly the entire supply of natural treasures of any sort, or upon exclusive ownership of raw material of any kind, Government ownership of the source of supply is called for. The National Grange and Patrons of Husbandry pledges its best efforts for the suppression of such dangerous associations, and we invite the earnest co-operation of every liberty-loving, self-respecting citizen of the republic.

Grange Items.

The last weekly session of San Jose Grange was so largely attended that extra chairs had to be brought in to accommodate the members. A movement is on foot to ask the State Department to secure from consular agents stationed in the fruit sections of the world monthly reports for the benefit of similar industries in this country, and a committee consisting of Prof. W. C. Childs, Prof. Volney Rattan and E. T. Pettit were appointed to co-operate with a committee from the Farmers' Club in aiding to bring this about.

At last Saturday's meeting of Santa Rosa Grange three new members were initiated, and the following resolution by S. T. Coulter was adopted: That the interests of the inhabitants of this county cannot be promoted by any State or National government system of irrigation and will be prejudiced by any action by which they would be involved in a public debt.

The National Grange has elected officers as follows: Master, Aaron Jones, South Bend, Ind.; overseer, Obediah Gardner, Maine; lecturer, N. J. Batchelder, East Andover, N. H.; steward, J. A. Newcomb, Colorado; treasurer, Mrs. E. S. McDowell, Columbus, Ohio; secretary, John Trimble, Washington, D. C; chaplain, S. O. Bowen, Eastford, Conn.; gatekeeper, H. E. Huxley, Neenah, Wis.; Ceres, Mrs. C. T. Atkeson, Morgantown, W. Va.; Pomona, Mrs. M. M. Wilson, Magnolia, Ill.; Flora, Augustus High, Vancouver, Wash.; lady assistant steward, Amanda Horton, Fruit Ridge, Mich.

San Jose Grange had a grand festival last Saturday. The time from 11 to 12 A. M. was spent in the initiation of a large class of candidates into the mysteries of the third and fourth degrees. During this time the ladies of the Grange were loading the tables in the dining room. About 12.30 the company thronged into the dining-room. All could not be seated at the first table. After the feast there were speeches rnd music which were good to hear.



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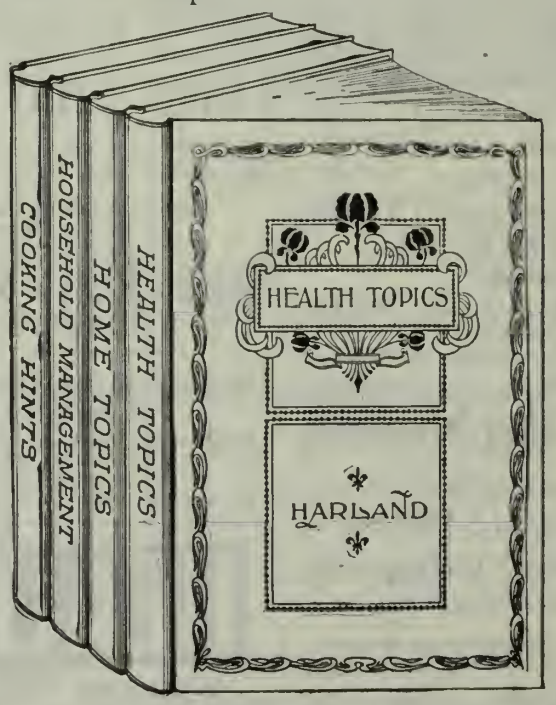
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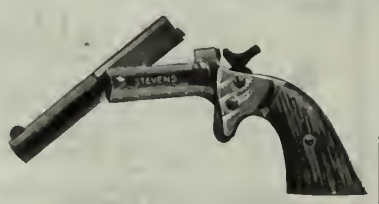
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A National Arboretum.

By Dr. F. Franceschi at the Santa Barbara Farmers' Institute.

"Arbor" is the Latin name for tree, transformed to "arvor" in Spanish, "arbre" in French, "albero" in the Italian language. To American ears this name has become familiar quite recently, and mainly through the exertions of the Hon. J. Sterling Morton, former Secretary of Agriculture, who caused "Arbor Day" to be consecrated and observed in several States of the Union. California is not of the number, and God knows if the planting of trees needs be encouraged in a country of light rainfall like ours.

"Arboretum" means a gathering of trees; not necessarily a wood or a forest, but the place where the largest number of different species of trees may be planted in some systematic way, for the purpose of studying their characteristics, and for testing their adaptability to different conditions of soil and climate, and to different uses.

All of you are aware that no other locality is known in the world that excels Santa Barbara in the possibility of growing to perfection plants from widely different climates; in fact, many are the species that are thriving here better than in their own homes. Taking together trees, shrubs and woody climbers, at least three thousand different species and varieties we grow here already, and this number can be doubled in a comparatively short period. But such wealth of vegetation that we possess is unluckily scattered about, and consequently of not much use to the generality of the people.

The difference between a pile of books packed in boxes and stored away, and a well organized library is apparent.

The arboretum is a library of trees, and it is the book of nature that is spreads open before everybody. A national arboretum at Santa Barbara will mean that botanists will convene here to study all phenomena connected with vegetable life, in a lovely climate and unattended by risks or discomforts; the forests will find here experimental tests of different trees suitable for reforestation in different parts of the country; horticulturists will have means of examining and comparing complete series of varieties of every fruit-bearing tree; landscape architects and private owners who want to embellish their grounds, will be taught as to the effect of well developed specimens of trees and shrubs, painters and other persons of artistic disposition will find here, at all seasons, an inexhaustible display of the most beautiful expression of vegetable life.

The proposed arboretum will receive seeds and plants introduced by the United States Department of Agriculture at considerable expense, and from various countries, a move happily started by Hon. James Wilson, present Secretary of Agriculture. It may gather plants from other sources also, and ultimately it ought to grow, and in sufficient number, representatives of every tree and woody plant that can do well in the open at Santa Barbara. Not less than five specimens of each kind need be grown to assure a fair representation, so that room ought to be provided in the arboretum for 30,000 specimens at least. Every plant must have space enough to acquire full and perfect development. On the average, between large trees and smaller shrubs, 150 plants to the acre appears to be a conservative estimate. Consequently to accommodate the above number of specimens it will need 200 acres.

The Department of Agriculture has declared its intention to defray the expenses of equipment and of yearly maintaining the arboretum, as far as the raising, testing, propagating and distributing its own introductions are concerned; eventually it may be induced to contribute further for an enterprise of undoubted national importance.

Now it behooves to some broad-minded, public-spirited citizen to offer the ground, and a competent endowment—binding forever his own name to an institution from which Santa Barbara, the State of California, and the country at large are sure to reap the greatest benefit. Only a short time ago $30,000 were donated for a public library at San Diego; $50,000 for another in Oakland. Much less money than that will assure the arboretum to Santa Barbara, of far more reaching importance than any local library.

Fresno Grape Harvest Closed.

All raisins that will be available for this season's pack are now delivered to the packers or are being finished in drying houses. About 15% of the crop of Muscat grapes was forced into the wineries or rotted on the trays by reason of the unfavorable weather which has prevailed since the latter part of October. Latest estimates by the California Raisin Growers' Association place the whole crop of the State for the season of 1889 at 2400 ten-ton cars.

The wineries have stopped buying grapes on account of the damaged condition of the fruit through rains and fog. The grape and raisin season is therefore closed; but notwithstanding the unfavorable curing weather and frosts of early spring, which shortened the crop, the prices of green grapes for wine making and for raisins have ruled so much higher than in former years that there has been a much larger profit to the growers than heretofore. The outlook for next year's crop, in view of a bare market, is therefore very flattering to the raisin-grower.

Importance of the Price of Hogs.

It seems a little odd that the degree of a crime should turn upon the market price of hogs, but a case came before a Justice of the Peace at Redding the other day in which this anomaly was presented. A woman was charged with stealing five hogs. Had their value exceeded $50, as the rightful owner claimed, it would have been grand larceny. But the hogs were weighed in the presence of the learned Justice, when it appeared that their combined weight was 907 pounds. This, at 5 cents a pound, amounted to $45.35, or just $4.65 short of grand larceny.

The Legislature, in its wisdom, has made it grand larceny to steal any "horse, mare, gelding, cow, steer, bull, calf, mule, jack or jenny," with-regard to value, but has not included the hog. So, in the eye of the California law, it is a penitentiary offense to steal a calf that may not be worth $5, while the theft of hogs to the value of $49.99 is but petty larceny, for which a term in the county jail is the severest punishment.—Pacific Bee.

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Sale of California Horses.

New York, Nov. 25. — California trotters from the Palo Alto stock farm of Mrs. Jane L. Stanford and the Aptos farm of A. B. Spreckels monopolized the attention of the bidders and auctioneer at the Fasig-Tipton sale in Madison Square Garden to-day. They were for the most part undeveloped youngsters and, considering this fact, they brought excellent prices.

One of the Palo Alto lot, the two-year-old bay filly Wildina, by Wildnut, out of Orphina, 2.17¼, by Norval, 2.14¼, died shortly after entering the garden. She was a promising filly and was entered in the $16,000 Kentucky Futurity, to be trotted at Lexington next year. The twenty-two head sold brought $9785.

Home Pork Making.

This is the name of a neat book of 125 pages, by A. W. Fulton, published by Orange Judd Co. There are chapters on pork making on the farm, finishing off hogs for bacon, slaughtering, scalding and scraping, dressing and cutting, what to do with the fine offal, the fine points in making lard, pickling and barreling, care of hams and shoulders, dry-salting bacon and sides, smoking and smoke houses, keeping bacon and hams, side lights on pork making, packing house cuts of pork, magnitude of the swine industry, discovering the merits of roast pig. The many recipes for cooking and serving pork are the favorite dishes of the best cooks. The book can be ordered from the Pacific Rural Press at 50 cts., postpaid.

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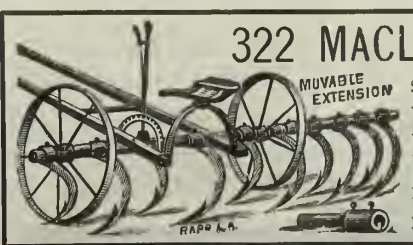
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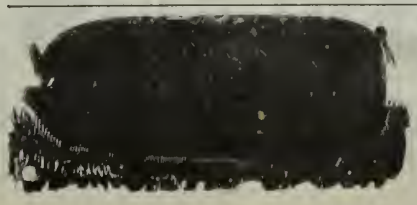
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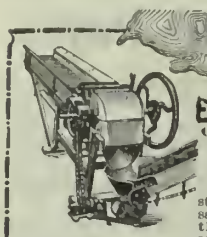
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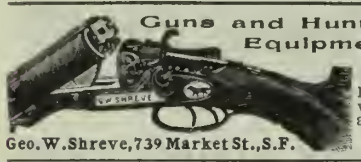
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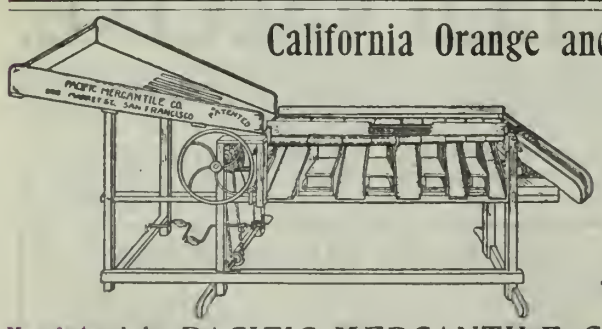


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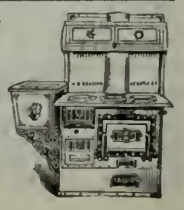
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AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 24 SAN FRANCISCO, SATURDAY, DECEMBER 9, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

The Zebroid.

A rival of the mule comes to prominent notice in this country through the last report of the Bureau of Animal Industry of the U. S. Department of Agriculture, and the portraits of the new cross-breeds upon this page are reproduced from the same publication by courtesy of the Department. The name zebroid seems to have been coined by Baron de Parana of Brazil, who presents it as the result of his experiments in crossing the common mare with the zebra. The zebra used for this purpose is known as Burchell's zebra (*Equus burchelli*), which is the best known zebra at this time. It is a species which is still common in some parts of South Africa and is being used in coach teams in the Transvaal. It differs from the mountain zebra in being larger and stronger, with shorter ears, a larger proportion of white, a longer mane and more horse-like tail. The general color is pale yellowish-brown, the stripes being dark brown or nearly black. The record of this zebra under domestication in the Transvaal seems to be very creditable to it. When hitched up, they stand quite still and wait for the word to go. They pull up when required and are perfectly amenable to the bridle and are softer mouthed than the mule. They never kick, and soon give up their natural inclination to bite when their fear of injury is overcome.

Such is the zebra which is to be the progenitor of an improved mule to be called the zebroid. It seems that the proposition to cross this zebra upon the common horse is not a new idea, nor is the use of the zebra as a substitute for the horse a recent proposition. About seventy-five years ago the beauty and the horse-like behavior of the species induced the suggestion that only a little skill and patience were required to make the animal available to man's uses. The fact that the zebra is much better adapted by its structure and form to these uses than any of the wild asses led to the belief that the cross with the horse would produce something better than the mule.

There has been some difficulty in securing the cross with the horse, but Baron de Parana has succeeded better than early experimenters and has produced fine zebroids as the offspring of a single zebra male. Three of the zebroids are male and two female. Two of the former are shown in the engravings. The zebroid Lordello is a brown bay striped with black, and Menelick is a gray striped with black. Others of the five are bay with black stripes and with dark brown stripes. There appears quite a chance for a play of colors by the use of dams of different shades.

The forms of the zebroids need no comment. Any horseman can learn them for himself by the pictures. The Baron says that they are very sprightly, but are at the same time gentle and become very docile with kind handling. They feed as well from the manger as on the pasture and are possessed of great muscular strength. Their size, slenderness, pace and disposition depend upon the dam, and they may therefore be bred for heavy or light draft. Crossing upon draft mares gives zebroids large and strong, but not so thick set as their dams. Crossing with lighter horses gives tall and slender zebroids, which Baron de Parana claims are fully as strong as the horse, but more tractable and suitable for work which requires quickness rather than strength alone. The Baron is convinced that the zebroid will prove of great economic importance, especially in the warmer climates, and he believes that the zebroid will displace the mule—in fact, will be the mule of the twentieth century.

Many have been the services of the mule to mankind. Both in war and in peace the mule is the motive power of very important enterprises. He does not figure largely in parade and display; but when it comes to be a question of steady going, persistent and intelligent effort and unyielding endurance, the mule has stood for generations without a rival. It seems poetic injustice that a servant of mankind having undergone such labors and achieved such successes should have to brook a rival at this late day; but why indeed should the mule escape the hardships which the demon of change inflicts even upon mankind? Doubtless the mule will not murmur, although he is a kicker.



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E. J. WICKSON.....Horticultural Editor.

San Francisco, December 9, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Autumn passes into winter without signs of the transition. The same vernal conditions prevail and no one can see the end of them nor desires to. Everything points to a winter equal to the best there is in tradition for moisture, warmth and plant growth, and all are using to their utmost the favoring conditions for field and orchard work. If any land fails of planting this year it will be because it is beyond the reach of effort or materials, for there never were more welcoming conditions. Our personal visits and correspondence all indicate eagerness, activity and confidence on the part of the people, and the call for information is wide and loud. We extend a warm welcome to the hundreds of new subscribers who are heeding the advice of their neighbors and friends and are sending their names as participants in the enterprise of the PACIFIC RURAL PRESS. Only a few years ago it seemed as though nobody cared to know anything; now everybody wants to know everything about the best ways to do farming in California. We consider ourselves here to approach a fulfillment of that demand as closely as possible, and it pleases us to find our publication advancing so rapidly in popular favor on just that line.

There is more smoke than fire to the wheat trade. Options have been quite energetically boomed during the week, but they have receded about to the same point they held a week ago. Spot prices for wheat are unchanged and there is very little doing. Fortunately there is no selling pressure and values hold which otherwise might give way. Barley is a relief in contrast. There have half a dozen cargoes of barley gone out since our last report, and the prospect abroad seems promising. The grain is not all of brewing grades, but it is good barley and will probably go that way beyond the sea. Corn is still scarce and high, but more Eastern corn is coming. Hay is unchanged. Bran is lower, but other ground feeds are about the same as last week. Meats are good property and have good prospects. As something in the line of live stock prophecy which we undertook two weeks ago, we note a contract closed here for 28,000 barrels of beef and a large lot of pork for Russia. This is quite a chunk, and we should be sending such all around the Pacific. Butter and cheese are steady and business moderate. Eggs are falling off—there having been a drop of 20% to 25% from the extreme figure of the season. Choice onions and potatoes are unchanged, but there are too many poor lots coming from the upper coast regions. Bayo beans are still rising; other kinds unchanged. There are too few really fine apples and too many really poor ones, and prices accord with the facts. Fine Winter Nelis pears are doing well. Dried fruit is quiet and little offering. Holders are waiting for the tables to clear a little. Wool is going forward as fast as possible.

The great thing of the coming week in horticultural circles will be the Fruit Growers' Convention at San Jose, of which an outline of the programme of the five days' meetings is given on another page of this issue. This will undoubtedly be one of the greatest fruit assemblages ever convened in California. Everything favors such character. San Jose is one of the best places for a convention. It is great in fruit, great in accommodations and great in hospitality. In some lines of fruit production and preservation the city and its environs represent the ultimate attainment of the State, and perhaps there is no single point where so much can be learned about doing so many things in the fruit line as at San Jose. It will be a revelation and an education to producers in new regions to pass the week in that region. We also know that the meeting will be great, from what we have seen in our trips about the State during the last two months. Everywhere we hear about going to the Convention this year, and localities which have had a stray representative or two in previous years will have them in clusters this time. The fruit people have money enough this year to wisely invest in this sort of a trip, and they are also becoming more and more sure that their future business depends greatly upon getting into line on the large producing and marketing propositions which are now nearer realization than ever before. This year's convention promises to have a profound impression upon our progress in fruit industries, and every one who can should figure in shaping that impression. The programme on another page shows how wide and varied the range of topics will be, and there will be time enough to give all important maters thorough consideration. Read the programme and pack your grip for an early date. Take your wife along. It is quite the thing to do so.

If you can spare the time start early enough to reach San Jose on Monday, for on Monday afternoon the State Association of Horticultural Commissioners will begin its sessions. This is an independent body, and has a special field, but it warmly invites all interested in measures for securing good, healthy trees and good fruit to partake in its deliberations. There is much to do, and sometimes the discussions of the County Commissioners get nearer to the eternal truth than the great convention does. At all events, take an interest in this important branch of the week's work.

The California Water and Forest Association, the organization resulting from the recent convention in this city, which was fully reported in the PACIFIC RURAL PRESS, has reached a working point in its career and its propaganda will soon be heard in the land. A good outfit of committees has been supplied and the members propose to do something. One line of policy which has been decided upon is that of co-operation with the national irrigation experts in their undertakings in this State and to supplement their funds with such money as the association can raise by solicitation. The resolution declared that one of the special aims of the association is to assist in every reasonable way the prosecution of the work now being carried on by the Government in the State, as represented by Messrs. Mean & Lippincott, and that the executive committee should be authorized to use any money in the treasury, in excess of that necessary for current expenses, for that purpose. What it is intended to do can be learned from this outline of what was said at the meeting:

Messrs. Lippincott and Mead explained that the amounts of money that the Government devoted to the work they were carrying on in California were small; also that the policy of the departments at Washington was to help localities that helped themselves especially. It appeared that the sum of $3000 only had been expended in locating reservoir sites in this State during the past year under the Geological Survey; also that the engineering departments of both of the universities in this State had offered, through their engineering departments, to assist in the work pursued by Mr. Mead, asking only pay for the actual expenses in the field, the universities paying the salaries of the men representing them. Mr. Mead also stated that the irrigation investigation planned by him in this State for the ensuing year would cost $9800. The total appropriation for the work of that sort in the entire United States was only $35,000. One-seventh of the sum he had planned to spend in California. But the department, whenever there was a large expenditure in any one locality, always inquired why—if we could show that there was great interest in the work in this State, and that the people were putting up their money that would assist materially in getting future Government aid.

It now remains to be seen how well the new association will succeed in gathering membership in all parts of the State, and how liberally rich men will contribute of their substance for the development of the State.

Our market reports for the last few months have declared the activity in wool and now it is impossible to get the wool ready fast enough to fill orders. Evidently there is a chance that wool may again reach high value as a California product if it has a fair chance. We are quite inclined to sympathize with General Chipman in his plea for the wool interest in future forest regulations. No doubt sheep do injury in some places, and in some hands, but we should be slow to stamp out the wool interest in a moment of rapture over some other great ideas. Wool is becoming a great thing. It is telegraphed from St. Louis that a syndicate of Eastern mills has consummated a deal there for 1,250,000 pounds of so called "Territory" wool for a sum said to aggregate more than $250,000. Sixty cars will be required to transport it to its destination in the East. It is said to be the greatest sale of wool ever made in the West. We do not know about that, but we do know that to get a good lot of money from waste lands is to add to the prosperity of the State.

The season of winter flower shows is approaching. Recent years have been so dry and recent times have been so dull that winter displays have been too little thought of. We are glad to be reminded that Pasadena has never forgotten the occasion, and that during the past ten years has not failed in a single instance to commemorate New Year's day by giving her rose tournament, when the utmost wealth of her resources in flowers has been drawn upon to artistically bedeck a long line of equipages, horsemen and bicycles, and to set forth in other decorations how lavishly nature has bestowed her floral bounties upon this favored land at the midwinter season, when, in countless other localities, snow and ice are dominant climatic realities. The copious and early rains of this season assure an exceptionally profuse and brilliant display of our choicest southern California flowers, and it is believed that the tournament of 1900 will, to a greater degree than ever before, be symbolic of the beauties of the section. There is to be a great four-day farmers' club institute in Pasadena, beginning right after the floral parade. The meeting will be under the auspices of the University of California and will be one of the great agricultural events of the year at the south.

Santa Clara county thinks of reopening the warfare against bovine tuberculosis. It is reported that the San Jose Board of Trade, Grange, Farmers' Club, Board of Health and County Medical Society will try to secure a renewal of the inspection of beef and dairy cattle for tuberculosis. On Saturday a committee waited upon the Supervisors and advocated the appointment of an inspector of dairies and slaughter houses, leaving out the question of a tuberculin test. December 18th, at 10 o'clock, was set as the time for hearing the petition. The inspection of cattle was begun rigorously several years ago, and after many diseased cows were killed it was discontinued. It is said that there was a decided decrease in the death rate there from consumption as a result of the former inspection. Probably the recent death by consumption of the man who did the cutting of condemned cows at the autopsies which were numerous a couple of years ago, has had something to do with the new alarm on the subject.

QUERIES AND REPLIES.

Sunburn and Borers: Transplanting Palms.

To THE EDITOR:—I have had several hundred apple trees, two years old, die from the work of borers. Now they have attacked my old apple trees, five to twelve years old. They bore into the tree a little above the ground, also in the limbs. Can I cut away the dead bark and wood and save the tree, when there is about three-fourths of the bark and wood sound and green? Is there any wash that can be put on to prevent them from entering the tree?

What is the best time to transplant palms about 4 or 5 feet high?

If one or more trees die from any cause, is it safe to replant in the same hole? If not, what is the nearest distance to plant that would be safe?—M. M., Banning, Riverside county.

Your apple trees were first injured by sunburn. Whenever the sun strikes the bark of the fruit tree with sufficient heat to burn it, the bark dies and the borers immediately enter it. There is no wash that will reach the borer after he has entered the tree, but the sunburn can be prevented by the free use of whitewash. Whitewash the trunk and main branches wherever the sun is apt to strike the bark. The best treatment for the trees which are already burnt would be to scrape off all the dead bark and then paint over the wound with common paint, being careful not to put on enough so that it will run upon the healthy bark. If the injury is not too wide new bark will grow over it from the sides. If you keep your trees well whitewashed you will have no further trouble with these borers.

The best time to transplant palms is when the ground becomes moist and warm, and the time of the year depends upon the part of the State. I should think that it might be attained in your locality in February; in the cooler parts near the coast good results can be had by transplanting in April or May. Where irrigation is available transplanting can be done later in the season. The beginning of one of its growing seasons is the best time to transplant any kind of evergreen plant.

You need not hesitate to plant a young tree in the place where another has died, if you clear the hole out well and use new soil. If you should try to move a certain distance away from the hole it would bring the trees out of line and render cultivation very difficult.

The Dire Black Aphis of the Peach in South Australia.

To THE EDITOR:—I am a young fruit grower of four years' standing, and in nearly all my efforts I have consulted your book on fruit growing and have considerably benefited thereby. I have 300 peach trees rather badly infested with black aphis. This pest was a legacy to me from the nurseryman who supplied the trees, and although I have sprayed and sprayed I can do no more than just keep them down. On consulting your book I do not see that you mention how to get rid of this pest, and the South Australian Government experts say it is impossible to get rid of it—all I can do is to keep on spraying and spraying. This season I made a determined effort by constant spraying with tobacco wash—a most effective spray—every week for weeks, and there are always some left. The terrible havoc wrought by this pest, coupled with the cost of spraying, makes peach growing a luxury only to be indulged in by the rich and the Government. Can you suggest a way in which I can rid my peaches of this pest so as to finish once and for all with such a heavy spraying bill? I might say I am thinking—that is, if you cannot suggest a remedy—of injecting bisulphide of carbon, as is done for phylloxera, so as to stamp out the aphis once and for all so as to have a clean place for replanting.—SUBSCRIBER, South Australia.

We cannot give you any information from experience in treating the black aphis of the peach. Fortunately, this insect pest has not yet been introduced to California, and our inspectors have been fully warned of its serious character and are continually on the lookout for it, for several years ago a shipment of Eastern trees was found infested and was burned. The bisulphide treatment of which you speak would be an effective stamping-out process, but whether it could be applied without killing the tree would, of course, be a question, for the use of bisulphide around tree roots for other insects has done injury where not used with great care. Experiments with tobacco dust have shown some efficacy in the United States for checking woolly aphis. Remove the soil from around the base of the tree and the main roots at the beginning of the rainy season; scatter upon the root crown and the main roots three or four pounds of tobacco dust and replace the soil. The rains leach out the destructive principle from the tobacco, which kills all the aphis with which it comes in contact and would prevent the insect from massing around the base of the tree. Whether this would be as effective with the peach aphis as with the woolly aphis can only be determined by trial. We sincerely trust that we may not have this problem to deal with in California.

Apple Spot and Tomato Growing.

To THE EDITOR:—What can be done to cure spot and green aphis on apples? Which are the earliest tomatoes and what can be done to get them as early as possible?—READER, Eel River valley, Humboldt county.

The spot or scab on apples can be checked by winter spraying with lime, salt and sulphur wash, to be followed by the Bordeaux mixture in the summer, just as soon as the spot begins to appear upon the leaves or fruit. There is no particular difficulty about getting clean apples if this spraying is carefully done. The green aphis is readily destroyed by kerosene emulsion.

The way to get early tomatoes is to grow the plants under cloth or glass earth and with a little bottom heat, so as to have good sized, strong plants ready for transplanting as soon as all danger of frosts is over. The earliest tomatoes which are grown for market are "Keys' Early Prolific" and "Dwarf Champion." When you set out plants as early as it is safe and use an early variety, there is nothing else that is usually done to encourage early ripening except perhaps to remove a little of the foliage, if it should be so thick as to prevent the sunshine from reaching the fruit. How early the tomato will be depends upon the local climate. All these matters are fully discussed in our book, "California Vegetables in Garden and Field."

The Oregon Crab as a Stock.

To THE EDITOR:—Is the wild Oregon crab root a good stock for the Yellow Newtown Pippin? Will it be resistant against too much moisture and grow a good big tree?—C. S. SWENSON, Watsonville.

All possible efforts were made in early days to raise these wild stocks for fruit trees when stocks were scarce and budded trees were worth $5 each. Whenever better stocks became available the experiments with wild roots were abandoned. The chief trouble seems to be the inferior growth upon such roots, and this applies to the wild crab, the wild plum and the cherry. They all dwarf the top sadly. We have often thought some patient person might develop a good line of dwarf trees on these stocks for garden use, but we are not aware that it has been done. The Oregon crab makes a good-sized tree under favorable conditions, and it ought to endure much submergence from its choice of places beside streams in the wetter parts of the coast. If any reader knows more about it we shall be glad to hear it.

Salt Bush on Adobe.

To THE EDITOR:—I see considerable said in regard to salt bush for pasture. How will it do on adobe, where it cracks badly but raises a good crop of wild oats every year, but which, after ripening on the ground, are of no use for pasture?—H. POLLEY, Clayton.

Salt bush will grow on adobe all right, but if we had a good, retentive soil of that sort we would not use it for salt bush, which we have never advocated for anything but alkali or dry, waste land. On adobe it ought to be possible to get a stand of some of the drouth-resisting grasses mentioned at the close of the paragraph about Bermuda grass on this page. These, with the wild oats, will make a good fall and winter pasturage and ought, if not overstocked, improve from year to year.

Uncle Ben Plum.

To THE EDITOR:—I send you by mail a specimen of Uncle Ben plum, a seedling, originating in Stanislaus county. I have fruited it at my place five years. Ordinarily it will remain on the tree until after Thanksgiving, and sometimes till Christmas. This year the wet weather has rather spoilt it. It cooks without any acid taste whatever—quite as sweet as the French prune. The tree bears very heavily.—LEONARD COATES.

This is a good-sized roundish plum, somewhat of the external appearance of the Transparent Gage, but with a deeper colored flesh. It has also much the same high quality and richness as this gage. It is, in fact, a very delicious fruit, and for such keeping quality should have a high place in the fruit list.

Guavas for Sacramento Valley.

To THE EDITOR:—Can we grow guavas on fruit lands in Tehama county? Which are the vest varieties, and can we grow them from seed or cuttings? READER, Corning.

The only guava which can be recommended for outdoor planting in your part of the State is the so-called "Strawberry guava." Guava seed germinates quite readily and there is no particular difficulty about growing the plant, but it would save much time to get two or three plants from a nurseryman. By starting in this way you can very readily see if the plant is adapted to your region, and can easily multiply them by cuttings or by the seed, if you find it desirable.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Dec. 4, 1899.

ALEXANDER MCADIE, Forecast Official and Station Director.

Except in portions of the San Joaquin valley, the temperature for the week ranged from 1° to 5° above the normal; warm days and cool nights, with light frosts, prevailed during the latter part of the week. Light showers occurred on Tuesday and Wednesday in the central and northern portions of the State. Conditions have been favorable for all kinds of farm work; plowing and seeding have been resumed in nearly all sections, and orchardists continue pruning. Orange picking and shipping have progressed rapidly in the Sacramento valley and at Porterville; the first shipment of Duarte oranges will be made this week; in portions of southern California the coloring of oranges progresses very slowly, and there are occasional reports that the fruit is not full sized. Sugar beets are nearly all gathered and are rapidly going to the factories. Early sown grain is making satisfactory growth. The grain acreage for the coming season will probably be much larger than last season's. Grass continues to grow rapidly and green feed is abundant in all sections. Frosts have caused no damage so far as reported.

Sacramento Valley.

The latter part of the week was favorable for orange picking, and large shipments were made. Olives are being gathered in considerable quantities. Pruning has been resumed; most fruit trees are in splendid condition. Frequent frosts occurred during the week, but no damage resulted. The soil has become dry enough for plowing and seeding and rapid progress is being made. Green feed is very abundant.

Coast and Bay Sections.

Conditions have been favorable for plowing and seeding, and this work has progressed rapidly in most sections. It is probable that the acreage sown to grain will be larger than the average. Sugar beets are being gathered and shipped to the factories in large quantities. Grass is growing rapidly, and green feed is more abundant than ever known at this season. A large acreage of onions is being planted in San Mateo county. Several frosts have occurred, but they were too light to cause damage. Orchardists and vineyardists have again commenced pruning.

San Joaquin Valley.

Orange shipments from Porterville to the East are nearly finished. In the vicinity of Modesto oranges are ripening and prospects are good for an excellent crop. Late grapes are being sent to the wineries. The soil is in good condition and plowing and seeding is progressing rapidly. A large acreage of grain is being sown. Early sown grain is doing well, and volunteer grain has made a good start. A heavy crop of hay is probable. Green feed is abundant.

Southern California.

Duarte oranges are ripening rapidly, and shipments will begin this week. In San Diego county oranges are not coloring satisfactorily, and the fruit will be smaller than usual. The weather has been favorable for farm work, generally clear and warm during the day, with fog and frost at night; frosts were light and caused no damage. Plowing and seeding continue, with indications of a large grain acreage Potatoes, cabbages and other vegetables are being shipped.

LOS ANGELES SUMMARY.—Fair, moderately warm days prevailed the past week; the nights were generally cool, particularly at the close, with morning fogs in some localities and occasional frost—light except in the mountain sections—which did no damage. The soil generally continues in good condition for working, but in some places it is getting too dry to plow and rain is needed to soften the ground, though plowing and seeding continue. Early-sown grain is reported to be making a good growth, but in sections it is coming up unevenly for lack of proper moisture. Oranges continue to improve generally, and in the Riverside district are said to be much sweeter than at this time last year. Some orchardists continue to irrigate their trees, profiting by the experience of the last two seasons, which has taught them not to depend upon future rainfall.

EUREKA SUMMARY.—Warm weather and continuous rains caused very rapid growth of grass. A portion of the potato crop remains in the ground, the soil being too wet for digging.

The following data for the week ending 5 A. M. Wednesday, December 6, 1899, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average seasonal Rainfall to Date	Minimum Temperature for the Week	Maximum Temperature for the Week
Eureka	.74	21.10	8.21	9.82	38	62
Red Bluff	.30	7.32	2.12	5.98	38	66
Sacramento	.10	7.20	1.61	4.12	44	58
San Francisco	.05	7.76	2.38	4.69	48	63
Fresno	.34	3.86	1.49	1.91	38	58
Independence	T	0.90	0.61	1.54	28	64
San Luis Obispo	.04	2 80	0.67	3.83	38	76
Los Angeles	.01	2.49	0.18	3.28	40	82
San Diego	.00	1.25	0 23	1.54	48	72
Yuma	.00	0.58	0.18	1.32	42	76

HORTICULTURE.

Care of Citrus Orchards.

By C. C. CHAPMAN at the Pomological Society of Southern California at Anaheim.

Citrus orchards require care, and a good deal of it. The results, both as to quality and quantity of fruit they will bear, depend upon the intelligent care bestowed upon them. This means more than an occasional irrigation when the trees begin to show the need of water, followed by an attempt at cultivation. A citrus orchard cannot be treated as the farmers in the East do their corn fields. They cultivate two or three times, and then "lay them by." I have never seen the citrus orchard that could be "laid by" in the sense that all necessary attention had been given it. There is cultivating, irrigating, fertilizing, plowing, fumigating and pruning to be done as regular work. Besides, sick or disabled trees need attention, more or less budding and replanting must be done, flumes must be built and old ones put in order, and other special matters constantly demanding attention, to say nothing of the work necessary to care for and market the fruit.

Delights of Orange Growing.—Regardless of this constant round of toil and watchfulness, there is no more fascinating and delightful rural occupation than the culture of the orange in the fertile and beautiful valleys of southern California. A gentleman gifted with shrewd business ability may find ample room for its display in the culture and marketing of citrus fruits. Here is also opportunity for interesting observation along almost all the varied lines of horticulture, and for constant investigation and experiment—all of which to most men will prove fascinating. I repeat that the calling is a most delightful one, even with all its attendant difficulties, and is in general profitable in proportion to the intelligent attention given it.

There is but one way to make a citrus orchard profitable for any considerable time, and that is to keep it up in the highest state of efficiency in every respect and all the time. This is not easily done; indeed, is only possible with one who is willing to give his trees, individualy as well as collectively, close and careful study; who knows the character and peculiarities of his soil, and who will keep a watchful eye on every change of tree or soil, and be ever ready to aid nature in her efforts to produce fruit. Conditions are so constantly changing that only by a close acquaintance with the orchard is one able to take notice of them in time to prevent disaster, or, as he may often do, turn them to his advantage.

Let me briefly allude to the important lines of orchard work under their respective heads. No attempt will be made to go into detail. To do this would demand more time than is allotted to me. I will speak only in a general way, which is all that is necessary to be understood by the experienced grower, and I trust will be sufficiently plain to the beginner to enable him to comprehend the ideas there set forth.

Irrigation.—The thought recently given to this subject by the growers has resulted greatly to the benefit of the citrus industry in general. Growers are learning how much can be done, and well done, with comparatively little water during the few weeks when it is scarce and most expensive. Water is as essential to the growing of good fruit as the trees themselves. While this may be admitted by all, yet there is a rational use of water. In other words, it must be used with judgment, and, indeed, scientifically. Trees may be educated to be, like some men, "heavy drinkers." This may also be with a tree, as with a man, largely a matter of habit. It is, moreover, about as difficult to break one as the other of this evil propensity. Both will tell you that they cannot get along without plenty of drink. Care should therefore be taken in the education of trees as well as boys.

I believe thorough winter irrigation and deep and frequent cultivation will carry most orchards through on comparatively little summer water, and also produce a superior orange. It is, of course, to be understood that the soil is in good condition, supplied with plenty of humus, and has been deeply plowed, so that it will both absorb and retain the water. While we have passed through the second of two successive dry years, the dryest of which we have record, and which were preceded by a series of four dry years, we have, nevertheless, perhaps the finest crop of oranges ever produced in California. This is the result of both forethought and prudence. The subsoil was thoroughly soaked during the winter with irrigating water. Go right on with this work through the winter, as though you did not expect rain, and if it comes, why the expense you incurred thereby may go with the amount you paid for the insurance policy on your house which fortunately did not burn.

Many of our best orchardists are being converted to the idea of winter irrigation. Water is then cheaper, and there is practically no loss by evaporation; and when put on recently plowed soil it will be absorbed in vast quantities. Use your soil as a storage reservoir, and bring the moisture to the surface by cultivation as your needs may demand.

I believe none of our farmers need further argument to convince them that the furrow system is superior in general to any other for the irrigation of orchards. It has so many advantages that even the most conservative are willing to concede its claims of superiority. Many who have not heretofore been prepared to follow this method are putting in flumes preparatory to adopting it. No orchardist can afford to go without flumes and every facility for irrigating by the furrow system. Under some conditions and in some places, however, it may be best to irrigate in forms. These conditions and places are, however, rare in this section.

Fumigating.—We rejoice to know that orange growers are no longer at the mercy of the scale—the red and the black. There was a time when many of them went about seemingly in a stupor, seeing their orchards being literally ruined and not raising a hand to defend them. They did not know with any degree of certainty what to do to protect themselves. Others were endeavoring to stay the ravages of these enemies with different sprays. But little impression, however, was made upon them by any of the different sprays. They kept on going from conquest to victory until they were put to the test of hydrocanic acid gas. This has proven to be the solution of this troublesome question. It does the work effectively where properly applied.

The improved quality of fruit in many sections is largely to be attributed, I am sure, to cleaning the orchards of scale, thus preventing the most succulent portions of the orange from being consumed by these fastidious feeders.

There is to-day absolutely no excuse for a farmer to have his orchard filled with scale. In the first place, he cannot afford to, as it is a most persistent robber, and will soon eat any man out of house and home; and, further than this, no man has either the legal or moral right to breed scale that are sure to ravage his neighbor's orchards. Is there a man in all this community that is so far lost to the common good that he would foster a contagious disease among his animals or in his home, when he was morally certain that his neighbor's stock or his neighbor's family would become infected with it, and thereby suffer? How far removed from this is the man who makes no effort to eradicate the scale from his orchard which is absolutely sure to do his neighbor an injury?

I speak of this at so great length and with so much force because I believe in the first place that some farmers are simply thoughtless and careless, and need to be made to realize what they are losing and the position they occupy before the community. If a concerted effort was made by all growers, the scale could be exterminated, or at least kept down to such an extent that it would not be necessary to fumigate oftener than every two or three years. In some sections this is practically the case now.

Pruning.—Some citrus fruit growers seem to think that the orange tree needs no intelligent hand to guide it in shaping itself, or in helping it along in the course of its development. This is a mistake and comes, I presume, from want of an acquaintance with the tree and its functions. The orange tree will to a great extent grow as you would have it. Of course, the different varieties have their own peculiarities, but, this borne in mind, the tree may be greatly aided in giving it ability to withstand the winds, and at the same time produce a large crop and hold it without the aid of props, and, further, keep the fruit comparatively free from scars.

It is necessary to keep the tree cleaned of all dead limbs or twigs and suckers. All these are harmful and are a heavy burden to the trees. It is best to keep the lower limbs pruned up, so that free circulation of air may pass about the trunk of the tree, and thus prevent the ground from getting sour, and thus affect the fruit and endanger the life of the tree. This is especially essential where form irrigation is practiced.

The principles of scientific pruning may not be understood by every one, but all intelligent fruit growers with a little observation can do this work quite satisfactorily.

Cultivation.—One of the most essential branches of orchard work, and one which is seldom properly done, is cultivation. I believe more can be done by cultivation, other things being equal, to produce a fine-textured, sweet, heavy orange, than by anything else—I am almost bold enough to say, than by everything else. It is certain that every other part of orchard work may be well done and this neglected, and you cannot produce a fine orange. I would emphasize this matter, for it is of the utmost importance. If orchards are plowed during the winter, and this followed with frequent deep cultivation, you will reap a rich reward for your hard labor. Most cultivation is too shallow, chiefly because it is much easier done, and from ignorance of the value of having the little feeders of the trees well protected by several inches of finely pulverized soil over them. I have noticed cultivators at work which were supposed to be cultivating between 5 and 6 inches deep, when, as a matter of fact, they were not over 3 inches.

Get the best machine you can find that is adapted to your soil, and then use it quite as though you didn't expect it to last always.

Fertilizers.—This is a perplexing part of the orchardist's work. While there is no question in my mind that even the best and strongest soil should be replenished, yet I am not able, with that directness I would like, to tell just how to do this and with what. Every rancher must study his soil, and aim to supply in sufficient abundance the material it seems to be lacking. For instance, if the trees want in vigor, if they lack that rich foliage which indicates a disposition to grow, nitrogen should be supplied. This may be given in various forms. Should the trees be in a very low state, barnyard manure could be applied. While this is not good orange fertilizer, as it will unquestionably produce coarse fruit, yet it is absolutely essential to have a strong, vigorous tree before any kind of fruit can be grown, and this furnishes not only nitrogen, but humus, for the soil, which is essential to the proper chemical action of any fertilizer or its absorption. Should trees fail to produce when otherwise in good condition, the want of potash is perhaps indicated. If the fruit is rough and coarse, the trees should be supplied with phosphates. The phosphoric acid they need can, I think, be supplied with bone meal better than with anything else.

These elements—nitrogen, potash and phosphoric acid—we secure in commercial fertilizer, and if intelligently applied will generally prove profitable. In buying these goods the greatest quantity of phosphoric acid, potash and nitrogen in available forms should be secured for the money. In other words, a fertilizer is valuable in proportion to the per cent of these elements which it contains that are available.

Soil that has been used constantly for years without permitting weeds to grow, or which has not been otherwise supplied with material for humus, should be put under a crop of legumes. Experiments are now being made with some of the more rapid growing lupins for this purpose. The most satisfactory crop, however, for green manuring citrus orchards is perhaps the Canadian pea.

THE DAIRY.

To Prevent Loss of Calves.

As has been previously explained in these columns, cattle abortion is of two kinds—accidental or contagious. Contagious abortion is a germ disease and is highly contagious. It occurs most frequently about the seventh month of pregnancy. In a recent issue of *Wallace's Farmer* the following advice is given for treatment of a herd in which abortion has broken out: If we had a case of this on our farm we would at once begin the carbolic acid treatment, giving an eighth of an ounce to each cow on a bran mash every other day for a week, and would gradually increase this to half an ounce. The cows will not like it at first, but will soon learn to eat it. Next, we would thoroughly clean out all the stables, separate the cows that showed any signs of abortion, and disinfect the stalls thoroughly with a solution of bichloride of mercury, dissolving two tablets, which can be obtained at any drug store, in a quart of warm water. We would also wash the vulva, hind legs, and tails of all cows that had aborted with the same solution, and keep this up right along until the disease had disappeared. This is the only successful way of which we know of dealing with this disease. We suggested this as early as 1894. It has been tested by a number of our readers.

We hesitated at first about recommending it, as most veterinarians are opposed to such severe remedies. However, it has the endorsement of such scientific authorities as Professor Nocard of France, and Professor Williams of Scotland, than whom there are no higher veterinary authorities in the world. Bear in mind that the washing is about as important as the giving of the carbolic acid. If the farmer is not willing to go at the thing in this thorough, persistent way, the best thing for him to do is to fatten his cows and sell them to the butcher.

Prevention.—The following is a copy of a leaflet that the Royal Agricultural Society of England has been distributing to cattle owners throughout the United Kingdom. It will be noted that no medicine is administered internally, but attention is directed solely to prevention by sanitation and disinfection: The common cause of repeated abortion at intervals in the same herd is contagion. The disease is caused by a germ which multiplies in the womb, between that and the membranes that surround the calf. The premature expulsion of the calf is the result of the inflammation and irritation of the womb set up by the germs, but a cow thus affected may nevertheless carry her calf to full term. The discharges which come away from an affected cow, and especially those that escape during and after the act of abortion contain the germs in great numbers, and are therefore capable of spreading the disease.

The disease is probably usually spread by such dis-

charges coming into contact with root of the tail and vulva of the healthy cows, but it may be spread by the means of the bull. Whenever an outbreak occurs it ought to be treated on the lines applicable to the suppression of other contagious diseases.

The measures adopted should include (1) the prompt removal from the herd of any cow that has aborted, or that shows signs of impending abortion; (2) destruction of the fœtus and its membranes, by fire or otherwise; (3) frequent cleansing and disinfection of the byre or cow shed; (4) daily sponging of the root of the tail and neighborhood of the vulva of each cow with a disinfectant solution.

In disinfecting the byre, attention should be directed mainly to the hinder part of the stalls, and the channel behind the cows. As a disinfectant a solution of sulphate of copper, chloride of lime, or carbolic acid (one in fifty parts of water) may be employed. The more freely this is used the better. For sponging the hinder parts of the cows the following solution may be used: Corrosive sublimate, 2½ drachms; hydrochloric acid, 2½ ounces; water, 2 gallons. It is important to note that this solution is highly dangerous.

THE POULTRY YARD.

Notes on Feeding.

To the Editor:—Every person who has poultry in small or large flocks should, if possible, have a field of alfalfa on which the fowls may forage. It has been fully demonstrated that this clover, green or cured, is one of the best foods for fowls, fed in conjunction with grain or without. One who has had much experience in raising poultry for eggs says: "No system of feeding will produce better results than an unlimited supply of alfalfa. It is the nearest approach to a perfect food we have, and, with a little dry grain morning and night, will make hens lay if there is any lay in them. Of course, the best results are obtained where fowls are allowed to run on the alfalfa patch and pick what they want. If green alfalfa cannot be procured, buy some of the best alfalfa hay and run it through a feed cutter, soak it ten or twenty hours and mix in it a little bran or middlings." And another writes: "When the green alfalfa cannot be obtained, the cured hay—second, third or later crops are best—should be cut into one-half-inch lengths, and steamed by pouring boiling water over it, allowing it to stand until well softened, then mix with equal parts of ground grain. It will be eaten with a relish. Alfalfa in itself is a valuable egg-forming food and greatly assists, by its bulkiness, in keeping the system in a more healthy condition. It may well form half the ration consumed by the fowl during the day. The other portion, if eggs or growth are desired, should be largely of such articles as wheat or bran, oats, lean meat and milk, with little or no corn."

More About Hay for Hens.—The better way is to have yards of the growing alfalfa, upon which the hens may forage. But not every one can have this. The next best thing is the cured hay—the finer the better; but, if fine, pour boiling water over it, let it steam several hours and mix with it equal portions of ground feed. It may seem strange to many that poultry will eat well-cured hay, whether it be any variety of clover or not; the clovers are the best, but wheat hay, especially if it was cut just after the kernel formed, or when the grain was in the stiff dough, is greatly relished by all hens, even when it is fed dry.

Alfalfa, green or dry, is excellent also for hogs. It has been demonstrated that swine will thrive upon it surprisingly. A small patch, or a large field, is one of the best pastures for the milch cow. So, why not seed a small field as an experiment this fall or next spring, if you do not care to cultivate it to greater extent? Its profitable use in the poultry yard or as a food for swine has been well demonstrated by numerous experiments conducted in many portions of our country during many years.

Meat Rations.—But, whether one feeds alfalfa or not, meat in some form should be given the hens, either in their mash or by itself. Not every one can procure fresh meat at low rates, if at all; but many can purchase meat meal or blood meal, which are excellent substitutes. Fresh bones, ground, are unsurpassed as egg-producing food, and hens eat this ravenously. But to grind the bones by hand is mankilling work, and good meat meal or blood meal will answer as well, no doubt. But it should be borne in mind that fowls do far better with a daily allowance of animal food in some shape.

Scratching Pen.—Let me write of an adjunct to the enclosed poultry yard that is almost an absolute necessity, if healthy fowls are expected and more eggs. I mean the scratching pen. If fowls have unlimited range, this is not called for, because they get all needed exercise in their search for food. But with the yarded fowls it is different, and means must be provided for this purpose. Provide a small pen, in which put 6 or 8 inches of straw; in this scatter the whole grain fed, and watch the diligent and delighted hen as she seeks the choice food.

An open scratching shed is all right during the dry season, but during the winter months cover it, so as to keep the straw dry. One will be well repaid for covering these pens as he notices the comfort the shelter affords fowls during the stormy days. This shelter will also afford grateful shade during the hot summer months. It will serve to add eggs to the basket, which is another argument in its favor. R.

Napa, Nov. 29, 1890.

Why Not Feed Your Poultry for Profit.

By Miss Florence Forbes, at the Farmers' Institute at Napa, Cal.

There are many farmers in Napa valley whose perverse hens lay during the spring and early summer, when eggs are low in price, but cease when eggs increase in value. The hens receive the blame for this sad state of affairs, and part of that blame is just. The other part should lie on the shoulders of the careless poultry keeper, for if he feeds at all he feeds inferior grains, plentifully or scantily, as the case may be, and at times to suit him. His flock roosts in the trees, or on the farming implements under sheds whose sides are open. Their roosting places are never cleaned. As a result thousands of little chicks, and old ones, too, reach their poultry heaven by means of roup, swell head, bronchitis or chicken pox. The pigs eat them; being in the open wild animals prey on them, and thieves deplete their numbers. The loss to the farmer is something enormous. There is no crop he handles that is as sure of profit as his poultry; no crop that he can as quickly turn into money as this one; no crop that he can harvest and ship all the year round as he can his eggs; no crop that he more persistently neglects. He houses well his other animals; not his hens. He feeds and waters all his live stock, but his poultry may find or starve. For them he does not recognize any law of food. But there is a law of food for them, as there is law for everything else. And never since the days of Adam has law been broken without someone paying the penalty.

Food Analysis.—Let us look at this law of food a bit; it is too weighty a subject for a paper such as this to thoroughly explain. There are few of us who do not know that substances fit for digestion have been divided by scientists into parts called nutrients. There are three nutrients: first, protein, such as gluten of wheat, casein of milk or gelatinoids of bones. All these forms of protein contain nitrogen in combination. The work protein does for the animal system is to form tissues, repair bones and muscle, form blood and digestive fluids and must be had to make eggs. The second nutrient is fat; it supplies heat, energy and fat. The third and last nutrient is the carbohydrates, and they supply mainly heat and capacity for work. Now scientists have proven that one part of protein to three-fifth parts fat and carbohydrates will give us the best results as food for laying hens. They call this a narrow ration.

All the nutrients are found in the grains, but not in this ratio of 1:3.5. Wheat, for instance, is one part protein to six and a half fats and carbohydrates. But this is almost double what our ration of 1:3.5 demands. To obtain from wheat the necessary protein for her system the laying hen must eat twice as much fat and carbohydrates as she needs. Carbohydrates in excess pour through the system without digestion. Here there is a heavy loss that must be checked. There is but one thing to do, supply protein from some other source. Dried blood is one of the most convenient forms by which we supply it. "Yes," you say, "but dried blood is expensive." It is. It is going to cost you 6 cents a pound. However, food at 6 cents a pound giving you five eggs is more economical than screenings at ½ cent a pound giving you no eggs at all. Eggs for the last month have been 40 cents a dozen.

Wasters.—There is another source of waste in feeding, the strain of fowls you have. They say to rear a child in the proper fashion you should begin with the grandparents; to have good laying stock the grandparents should be layers. A hen that is descended from stock that for generations has had its laying quality stunted through lack of care, lack of food and general misery, is not going to lay well, because she cannot, and to feed such fowls expensive food is a risky experiment. The careful poultry man calls such fowls "wasters," and one can not feed for profit and keep "wasters."

The Better Way.—Well, what shall we do about this poultry business? Continue in the old way with the hens nothing but a source of annoyance? Why not strike for the fat profits to be had from our fowls properly cared for? It is much more interesting to receive $12 for a case of eggs than $3 25. Why not given our hens inexpensive houses, tight on three sides; why not hatch our pullets in March and April, when eggs are cheap, and have them arrive at their laying period in October and November, when eggs are high? Let us decently house the chicks, paying attention to the strain we keep. Last, but not least, let us learn to understand the law of food. Then use it with judgment, good, hard, common sense. For, says *Farm Poultry:* "The writer wishes to emphasize the fact that however exact the knowledge of animal nutrition may become, and however thoroughly the practical operative may be trained in its teachings, failure is sure to follow careless work and slovenly methods. Science furnishes no royal road to success. A ration may be accurately balanced in all its parts * * * but irregular attention, undue exposure, vermin, cramped quarters, insufficient exercise, and many other causes, or any one of them, may undo all the most skillful food compounder can devise. Science is but an adjunct to judgment. It goes all wrong when treated disrespectfully, but coupled with intelligence and energy it produces results as regularly and as surely as the morning sunrise. With a thorough understanding of principles involved, the operative may avoid the waste of much valuable material in foods as well as have more efficient control over the life habits of his yard."

THE FIELD.

The Use of Fertilizers.

By Blayney E. Maynard of West Side at a recent meeting of San Jose Grange.

The question of fertilizing is at present exciting considerable interest among fruit growers in this county, any reliable information being eagerly sought after. The fruit grower, however, is too ready to rely upon what others say rather than trust to his own judgment. The man who carefully works his place and feels for his trees an almost paternal affection, having tended them from their infancy until reaching a bearing age, should be far better able to judge of their requirements than one who probably has never seen them and, at the most, takes but a passing interest.

The greater number of articles published in our newspapers are often more confusing than helpful, not giving the farmer the necessary information to determine for himself the special needs of his plants. Therefore, a few suggestions as to the specific action of the chief fertilizing elements may be of assistance.

As a rule, in fertilizing we only have to consider four out of the fourteen elements that compose vegetable matter—nitrogen, potash, phosphoric acid and sometimes lime. It may be interesting to note that only 3% of the entire wheat plant is composed of the above four elements, 93 55% derived from air and water, the remaining 3.45% being abundantly provided by the soil.

Nitrogen.—The influence of nitrogen in its various forms upon plant life is shown by at least three striking effects.

First, the growth of stems and leaves is greatly promoted, while that of buds and flowers is retarded. Ordinarily, most plants at a certain period of growth cease to produce new branches and foliage, or to increase those already formed, and commence to produce flowers and fruits, whereby the species may be perpetuated. If a plant is provided with as much available nitrogen as it can use just at the time it begins to flower, the formation of flowers may be checked, while the activity of growth is transferred back to and renewed in stems and leaves, which take on a new vigor and multiply with remarkable luxuriance. Should flowers be produced under these circumstances, they are sterile and produce no seed.

Second, the next effort of nitrogen on plants is to deepen the color of the foliage, which is a sign of increased vegetative activity and health.

Third, another effect of nitrogen is to increase in a very marked degree the relative proportion of nitrogen in the plant.

Phosphorus.—Experiments have shown that plants will die before reaching maturity unless they have phosphoric acid compounds to feed upon. Phosphates appear to perform three distinct functions in plants.

First, they aid in the nutrition of the plant by furnishing the needed qualities of phosphorus.

Second, they aid the plant in some way, not well understood, to make use of or assimilate other ingredients. Phosphorus is found in the seeds of plants, and, as already stated, a plant does not come to maturity, and so does not produce seeds unless phosphates are present in the soil for the plants to feed upon. The liberal application of available phosphate compounds appears to hasten the maturity of plants.

Third, certain forms of phosphates render the albuminoids sufficiently soluble to enable them to be carried from the growing parts of plants to the seeds, in which they accumulate in quantity.

Potassium.—Compounds are essential to the formation and transference of starch in plants. Starch is known to be first formed in the leaves of plants, after which, in some way, it becomes soluble enough within the plant cells to enable it to pass through the cell walls gradually and later to be carried into the fruit, where it accumulates and changes back to its insoluble form. It is well established that potash compounds are intimately connected with the formation of starch in the leaves and with its transference

to the fruit. No other element can take the place of potash in performing this work. Potassium compounds are important on account of their influence upon the development of the woody parts of stems and the fleshy portions of fruits.

Uses of These.—When leaves are pale green in color and growth of stems and leaves is small, lack of nitrogen is generally indicated. When fleshy fruits of fine flavor and texture can be grown, plenty of potash in the soil is indicated. When soil produces good early-maturing crops of grain with plump, heavy kernels, phosphoric acid will not generally be found lacking.

In bearing orchards, nitrogen as a rule should not be used when wood growth is sufficient. The use of potash in this county has in many instances been found to greatly improve the size, sweetness and flavor of prunes. Experimenters should carefully note this effect upon the sugar content. The good effect of potash fertilizing on some of our soils, which analyses show to contain a very large amount, is almost startling. The addition of about 100 pounds per acre has in several instances almost doubled the size of the prunes the first season. Continued good results have been noted for several seasons in succession.

Phosphoric acid in various forms is being successfully used, being valuable when fruits are not inclined to set well, in many instances entirely overcoming this trouble, also improving the quality and hastening maturity. In the same way that phosphoric acid aids in forming the bones in animal life, it helps to form the albumen in plants. It is consequently one of the principal factors of growth for plants, as well as for animals, including the human race. Moreover, in the same proportion as more albumen is formed, starch, sugar and fat will increase. Fruits and vegetables of low feeding value may thus be transformed into food containing double the former nourishment.

The fertility of soil is not measured by its most abundant fertilizing elements, but by the one in which it is most lacking. Only when necessary ingredients are in proper proportion can it be expected to obtain the maximum result. Unfortunately, farmers frequently do not consider this condition, and may apply an element with which the soil is abundantly provided, or failing to obtain its effects by not adding a sufficient supply of its coworkers.

The farmer who intelligently considers his plants will find that they, with almost unerring instinct, will correctly indicate which fertilizing element they most require.

There is a little work entitled "Plant Food," published by the Experiment Farms, Southern Pines, N. C., that all interested in the study of fertilizers should obtain. This publication is free to farmers.

SHEEP AND WOOL.

Sheep on the Plains.

Now that wool is in sharp demand and the outlook favorable our readers will be interested in flock topics. In a quarterly report entitled "The Modern Sheep," compiled by Secretary F. D. Coburn of the Kansas Board of Agriculture, is an interesting article by A. T. Howden of Jetmore, Kansas, a veteran whose experience in the sheep business began fifty years ago among the flocks of Washington county, Penn., and who at the time of writing was fattening 1500 head. He tells some of his interesting and valuable twelve years' experience in handling flocks in western Kansas.

Handling the Sheep.—On the first day of December the rams are divided into two flocks and turned in with the ewes on alternate days. We commence feeding the rams about half a bushel of grain per 100 head per day the first of November, increasing until it reaches one bushel at the time they are turned in with the ewes. This quantity is continued until spring. The ewes are fed one-fourth bushel of grain per 100 head from the first of December to the middle of March, when it is doubled. The rams are taken out of the ewe flock the middle of January and kept by themselves until the next December. The rams and lambs are fed some sorghum fodder all winter. All the sheep are fed all the sorghum they will eat when there is snow on the ground. It is very important that the young of all domestic animals should come with the first grass or a few days before; therefore I use a large number of rams, say one to every twenty-five ewes, which usually produces three-fourths of my lamb crop in sixteen days. Usually the grass has sufficiently started by the 5th to the 10th of April to stop all feeding. At this time the lambs are earmarked to designate their age and turned in with the general flock. By this earmark I am enabled to fatten and turn off all old ewes before they die on my hands. I know of no other shepherd who has adopted this plan.

The Lambs.—It is imperative in these days of low-priced wool to save every lamb possible, for not only our profits, but making expenses, depends upon our success in this particular. Our greatest trouble arises from being compelled to put too many young lambs together before the ewe has become familiar with her own. Think of a young mother with all her intelligence trying to find her young babe among sixty others that were only born yesterday! The lambing season commences May 1st. The routine of taking care of them by your narrator is as follows: When the herder sees a ewe about to drop her lamb he ties a piece of red muslin around her neck, and when the lamb is dropped he ties a similar piece around its neck and leaves them on the prairie together. The next ewe and lamb are marked the same, except the strings have each one knot in the end; the next have two knots, etc. In the afternoon the stable boss takes a horse and cart; the latter has a box which is partitioned off so that each compartment will hold one ewe and lamb. He gathers all of them up on the prairie, takes them to the barn and puts each ewe and lamb into a box 3 feet square. In the evening he examines all to see if the lambs have nursed. During the night until twelve o'clock he goes through the flock every two hours and takes into the stable any ewes that may have had lambs. On very stormy nights this is continued all night. In the morning he again examines all the ewes to ascertain if the lambs have nursed, takes the strings off, marks the ewe and her lamb with the same mark in paint, having a distinct mark for each pair. If any ewes do not own their lambs they remain in their box until they do. The lambs of the previous day and their dams are turned into a fifty-acre pasture and the same process repeated with the next day's crop.

FRUIT MARKETING.

Benefits of Association Among Walnut Growers.

To the Editor:—The question of the benefits of marketing walnuts through associations is being widely discussed by walnut growers at present, and a few items in regard to association work may not be out of place.

The Deciduous Fruit Association of Anaheim was formed about two years ago for the purpose of securing the best prices, and the largest possible part of the selling price for the growers, without regard to any special method or place of making sales.

The Association was fairly successful last year, and with added experience has been much more successful the present year.

The produce has been sold by the Southern California Deciduous Fruit Exchange, of which this Association is a member, and has been sold either through its agents in the East, or to buyers on this coast, depending on which paid the highest price.

This year the Association sold dried apricots as high as 12 cents per pound, and the average was 11¼ cents per pound, netting the grower, who did his own drying, the sum of $10 48 per 100 pounds.

The walnut season has been successful as well, and recent sales have been made of No. 1 soft shell walnuts at 10¼ cents f. o. b. Anaheim.

A Contrast.—To show what this means to the grower we will note the difference between the Association price and prices paid by buyers to those not in the Association. The bulk of the walnut crop was bought early at an average of about 7½ cents per pound net.

The Association price is subject to a deduction for expense of selling and also for grading and bleaching, not to exceed 70 cents per 100 pounds, leaving the net price 9.55 cents per pound, or a difference in favor of association of $2.05 per 100 pounds, or $41 per ton, making $410 per carload of ten tons.

An Instance.—A few days ago a local buyer sent out a carload of ten tons for which he paid the growers $1500. This he sold to a broker for 8 cents per pound, or $1600. The broker sold to a wholesale grocer for 10 cents per pound, or $2000.

At about the same time the Association sold a car of ten tons to a wholesale dealer in the East for 10¼ cents per pound, or $2050. The expenses were about 70 cents per 100 pounds, as stated above, or a total of $140, leaving $1910 for the growers, instead of $1500 realized by selling outside the Association.

It must be further considered that if there had been no associations to steady prices, prices would have been still lower for those who had to compete with one another in order to sell.

It may be said that this was an exceptional year as regards prices, but that is always the case. Two years ago was an exceptional year also, and next year may be exceptional in another way.

Sellers' Wrongs.—There are several schemes to which buyers and packers resort to in order to swell their profits. One of these is to put only 100 pounds of nuts in a sack that will easily hold 115 pounds, thereby selling sacks that cost 6½ cents per pound for 10 cents per pound, and putting in more sacks than are necessary to hold a given amount of walnuts.

Another is well known to the growers and scarcely needs mention. It is to make contracts for the walnuts early, and then if the price falls the buyer finds a way out of the contract and will not take the nuts; but if the price rises he insists on having every sack picked off the orchard.

The Course of Prices.—It must be said that all the walnuts were not sold at the highest prices, but the walnuts were put on the market and sold as opportunity offered, the lowest sales being $8.15 per 100 pounds net for No. 1 soft shells, at which price a few cars were sold. The price was then advanced to $8.75 for No. 1 soft shells, and later sales were made for 9 cents for No. 1 soft shells. No. 1 hard shells were sold at a half cent less, and No. 2 nuts at 1 cent less than No. 1 nuts. That is, when No. 1 soft shells sold for $8 75 per 100 pounds, No. 2 soft shells were sold for $7.75 per 100 pounds.

The brokerage paid ranged from nothing to 2½%, that being the highest paid, and only on a few cars.

When prices are low an association that is well represented in the East can always get as high prices as are paid to any one, and in the so-called exceptional years can do much better for its members than individuals can possibly do.

We had no trouble to make sales, and our only source of anxiety was to keep our agents from selling too many walnuts. We could have sold ten times the quantity with the same number of agents, and when we consider that not one-fourth of the agents of the Exchange were allowed to solicit orders for walnuts, it will be seen that the entire output of California could have been handled in the same manner, and all the surplus profit have gone to the growers, who are certainly the parties entitled to receive it.

J. B. Neff.

Anaheim, Cal., Nov. 24.

Programme of the Fruit Growers' Convention, to Be Held at Unitarian Hall, San Jose.

TUESDAY, DEC. 12th—9:30 o'clock.

Address of welcome, Judge Huribert of San Jose.
President's annual address.
Appointment of committees:
(a) On Resolutions, to consist of five members, to whom all resolutions shall be referred, unless otherwise ordered.
(b) On Legislation, to consist of five members.
(c) On Marketing, Transportation and Freight Rates, to consist of nine members.
(d) Other committees as the Convention may determine.

Afternoon Session—1:30 o'clock.

Review of the year's fruit shipments, distribution, marketing and increasing the consumption of fruit and fruit products.
Report of the season's operations of the California Fruit Growers' and Shippers' Association, by Col. H. Weinstock of Sacramento, President and General Manager.
Report of Committee from last session on Organization, Transportation, etc., by Hon. R. D. Stephens of Sacramento, Chairman.

WEDNESDAY, DEC. 13th—9:30 o'clock.

Organization and Co-operation Among Producers; Foreign Competition.
Advantages of Organization and Co-operation:
(a) "Deciduous Fruits," address by Prof. C. W. Childs of San Jose.
(b) "Citrus Fruits," address by A. H. Naftzger, President and General Manager Southern California Fruit Exchanges.
"Prospective Competition from the Philippine Islands," address by Prof. A. P. Hayne of Berkeley.
"The Free Public Market Project, Report of Committee," by Edward F. Adams of Wrights.

Afternoon Session—1:30 o'clock.

Deferred discussion on organization and co-operation, markets, marketing, etc.

Evening Session—7:30 o'clock.

"Fruit Tree Stocks," essay by Leonard Coates of Napa.
"Resistant Vine Stocks," essay by E. D. Sweetzer of Santa Rosa.
"Apple Culture," essay by Edw. Berwick of Monterey.

THURSDAY, DEC. 14th—9:30 o'clock.

"Co-operation Among the Farmers, as Applied to the Raisin Industry," address by M. Theodore Kearney of Fresno, President and General Manager California Raisin Growers' Association.
"New Fruit Creations," address by Luther Burbank of Santa Rosa.

Afternoon Session—1:30 o'clock.

"Report of Committee on Legislation to Suppress the Sale of Infested Fruit," by B. N. Rowley of San Francisco.
Dangerous Pests Quarantined by the State Board of Horticulture—"Stopped at the Threshold," essay by Alexander Craw, State Horticultural Quarantine Officer.
"Substitutes for Paris Green as Insecticides," essay by Prof. C. W. Woodworth of Berkeley.
"Beneficial and Injurious Birds," address (illustrated with drawings and specimens) by W. Otto Emerson of Haywards.

FRIDAY, DEC. 15th—9:30 o'clock.

"Need of Better and More Uniform Pack for Exportation," address by Hon. Eugene Germain of Los Angeles, late U. S. Consul to Switzerland.
"Surface Irrigation, Sub-Irrigation and Inter-Irrigation," essay by Prof. S. M. Woodbridge of Pasadena.
"The Citron of Commerce, Cultivation and Manufacture, Import, etc.," essay by B. M. Leiong, Secretary State Board of Horticulture.
The Olive and Citrus Industries—Fructification, etc.

Afternoon Session—1:30 o'clock.

Pollination of Fruits and Caprification of the Fig; Adulterated Foods and Their Influence on the Productive Industries of the State: the Almond and Walnut Industry, etc.
"Account of Work of the Blastophaga, or Caprifig Insect, in Fertilizing the Smyrna Fig," essay by Geo. C. Roeding of Fresno.

Discussion.

After the delivery of each address or the reading of an essay, opportunity will be afforded for a full discussion of the subject.

SATURDAY, DEC. 16th.

Excursion to the Leland Stanford Jr. University, leaving San Jose at 9:30 o'clock A. M. and returning at 3:45 P. M. President David Starr Jordan and others will deliver addresses.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

BEET SEASON ENDED.—Pleasanton *Bulletin*: The sugar beet growers are now rushing things as rapidly as possible owing to the lateness of the season and the demand of the sugar company that hauling cease Thursday noon. As yet there are said to he 13,000 tons out and it is feared that it will he impossible to get the entire crop hauled owing to the heavy rains, which have caused hauling in the fields to he almost impossible.

NURSERY STOCK IN DEMAND.—Niles *Herald*, Dec. 1: "Not one-half of the trees will be set out this season that people are calculating on at this time," said Secretary E. E. Uslar of the California Nursery Co. while discussing the season's outlook. "I refer to prunes, peaches, apricots and almonds. The supply is nowhere near the demand, and prices range from 50% to 100% higher than last year. Orders are already rolling in on us far in advance of our annual catalogue. The desire to put in fruit of the varieties named seems to have possessed everyone, and a great many will be disappointed when they find it impossible to get the stock desired."

Butte.

SUGAR BEET EXPERIMENTS SUCCESSFUL.—Biggs *Argus*: Experiments in growing sugar beets in this section have been entirely satisfactory as to soil and adaptability, and analytical tests of the samples grown at various places have exceeded the required quantity of saccharine matter.

Kings.

LARGE ACREAGE IN GRAIN.—Hanford *Journal*, Nov. 28: An immense acreage will be seeded to grain this year. The rainfall has been abundant. The West Side plains from Mendota to Tracy are being worked by big plow teams, preparatory to seeding the grain. The country never looked prettier, as the wild grass is growing luxuriantly everywhere.

Lassen.

REMARKABLE SEASON.—Susanville *Advocate*, Nov. 30: The oldest inhabitant is finding ample opportunity for indulging in weather reminiscences this season. Instead of the usual ice and snow on the ground, the grass is well up and feed on the ranges is good. The mild, warm rains have saturated the ground thoroughly, and in the absence of the usual freezing weather have quickened plant life to an extent seldom known in this section before. Fruit growers inform us that the buds of the cherry and apricot trees are swelling rapidly, and that a week or two more of such weather will bring them into full blossom. At Sam Alexander's place a plum tree is in bloom. The warm weather is also affecting the winter apples, bringing them to an early ripening—a month or more before their usual time.

Monterey.

IMMENSE TONNAGE OF BEETS.—Watsonville *Pajaronian*, Nov. 30: The big beet mill at Spreckels is silent this week, hut it is expected to start again next Monday. The frequent storms so delayed the delivery of the beet crop that it was impossible for the mill to make a continuous run, and the management decided to have a shutdown that would give sufficient time for the delivery of enough beets to insure a satisfactory run. The mill has sliced about 100,000 tons of beets, and conservative estimates place the crop that is to be milled at not less than 70,000 tons. The big mill will handle on its first season's run the heaviest tonnage of beets ever milled in one season in this country, and it is apt to be a world's record; and the beets are rich in sugar also.

Orange.

GRAIN SOWING.—Santa Ana *Blade*, Dec. 1: Grain is being put in on the Santa Margarita ranch, owned by Richard O'Neill, at the rate of nearly 100 acres a day. A large acreage will be sown.

CELERY CROP PROSPECTS.—Santa Ana *Blade*, Dec. 1: Prospects for a big crop of celery were never so favorable as this season. Twelve hundred acres are devoted to celery in the peatlands region, from which it is expected to ship about 1000 cars, some of which have already been sent forward. D. E. Smeitzer, the largest celery grower, thus sums up the situation: Some was planted too early and was injured by the heat. As a matter of fact, we should not attempt to get the crop ready before Christmas with a season like this, as the warm weather matures the crop too rapidly, but the normal season has to be the basis of our calculations in planting, and what will be lost at the beginning will be made up four times at the close by having celery ripening each month from now to the first of March. The only damage done so far has been some rust. That so rusted could have been shipped when it was ripe, but the quantity was so small that it would not pay. We have the finest celery this season ever raised in the country, and from present prospects will have very satisfactory returns.

Placer.

LACK OF INTEREST IN THE GROWERS' ASSOCIATION.—Newcastle *News*, Nov. 29: The attendance at the growers' meeting held on the 21st inst. was not large. The Fruit Growers' Association of Placer county has so far been unable to get 70% of the fruit pledged to it, which amount is required to make the contracts binding. It is unlikely that the necessary amount will he secured, as the prosperous times appear to make the growers satisfied with present methods.

Riverside.

ORANGE SEASON IS OPENED. — Riverside *Press*, Dec. 2: The orange season is fairly under way. Riverside put out twenty-four cars last week, and twenty-two cars of lemons, 361 boxes to the car. This week's shipments will he still heavier.

WATER CLAIM FILED.—*Press*, Dec. 2: Geo. W. McFee has filed upon 2000 inches of water in Carl creek and claims land for a reservoir site. The water is to be used for irrigation purposes. The land is located on the desert to the east of Murietta.

San Bernardino.

WATER IN BEAR VALLEY RESERVOIR.—Redlands *Citrograph*, Dec. 2: Word comes from Bear Valley that there is 16 feet of water in the reservoir, according to the measurement at the dam.

WATER FILINGS.—*Citrograph*, Dec. 2: Five water filings have been placed on record by H. H. Sinclair, representing the Redlands Electric Co. The company claims 3000 inches of Bear creek water, 500 inches of Forsee creek, 300 inches of Deer creek and 1500 inches of Santa Ana river.

ORANGE SHIPMENTS.—Ontario *Record*, Nov. 29: The Citrus Fruit Association is shipping a carload of oranges every day. Manager Little reports that the fruit now coming in is of splendid quality, owing to the perfect weather conditions that have prevailed. The associaton has also been making large lemon shipments during the last few days at very satisfactory prices.

DUSTLESS ROADS COMPANY INCORPORATED.—Redlands *Citrograph*, Dec. 2: The California Dustless Roads Co. has been incorporated, with $600,000 capital, of which $460,000 has been subscribed. The company is engaged in the use of crude oil for street sprinkling. The directors are Frederick H. Rindge of Santa Monica; Frederick W. Mattern, Lyman B. de Camp, W. J. Williams and George I. Cochran of Los Angeles. Mrs. Harriet O. Mattern also subscribes for $116,667 worth of stock. Equal amounts are subscribed by Mr. Mattern and Mr. de Camp; Mr. Rindge contributes $99,998, and Messrs. Cochran and Williams $1 each.

ANNUAL MEETINGS.—Redlands *Facts*, Nov. 29: At the annual meeting of the Redlands Water Co. the following directors were elected: C. H. Lineau, Hugh Marshall, Isaac Jones, F. C. Beecher and Dr. W. M. Smith. The Board met and elected C. H. Lineau president, Dr. W. M. Smith vice-president, C. F. Bailey secretary, Union Bank treasurer, J. E. Brown superintendent.—At the annual meeting of the West Redlands Water Co., G. B. Ellis, H. N. Nason, W. T. Bill, L. B. Howard and C. E. Davis were elected directors.

IMPROVED SUGAR MAKING.—Chino *Champion*, Dec. 1: The fact that sugar of standard quality can he made from beets, regardless of the quality of the juices, is one that has been previous to this year a disputed point. This result is the outcome of the technical efforts of Superintendent J. McCoy Williams. It means an increased yield, as the success of working lower products into first quality granulated sugar has not been accomplished before in the State, and possibly such success for a whole campaign, without making part of the syrups into raw sugar, is unknown in the sugar world. By this means a factory operates without unknown losses, and may still place on the market direct granulated sugar, all of superior grade. The yield is naturally the best per 100 pounds of sugar, as the products crystallize well at the start, leaving but little crystalline properties in the last syrup for the Steffens process to extract, which enters finally with the fresh juice from the heet. The process of granulation is accomplished in one boiling, under Mr. Wilson's process, as the juices are especially prepared to mix with the syrups. In the perfection of this mixture during crystallization a uniform grade of sugar is obtained. This shortens the process over the usual way from one to two boilings.

San Joaquin.

FRUIT SHIPMENTS.—Lodi *Sentinel*, Nov. 25: Fruit shipments have made up the bulk of the freight leaving Lodi for the last three months. From early in August to November 8th 95 cars of green fruit were shipped, of wine grapes 101, watermelons 76, dried fruit 4, making a total of 276 cars. It is worthy of note that the shipment of wine grapes was more than double that of any previous season, the next highest being 1897, when 45 cars were shipped. The shipment of 76 cars of melons proves that this crop is giving out. Last year less than a dozen carloads were sent from here, owing to the extremely dry season. Compared with these two years are many in the past showing shipments of from 250 to 300 cars.

Santa Clara.

LAST SHIPMENT OF CANNED FRUIT.—San Jose *Mercury*, Nov. 27: J. C. Ainsley of Campbell is making his last shipment of this season's canned goods. It consists of fourteen carloads and will go to England.

OFFICERS ELECTED.—Mountain View *Register*, Nov. 24: The new officers of the Emerson Tract Irrigation Company are: W. H. Bates, president; E. F. Greenwood, secretary; and W. B. Atkins, treasurer. The other directors are S. M. Horton, Jacob Regli, H. H. Higgins and F. M. Pritchett.

FRUIT GROWERS' CONVENTION. — San Jose *Mercury*, Nov. 29: The joint committee of the Farmers' Club and Board of Trade met yesterday afternoon and made further arrangements for the State Convention of Fruit Growers to hold session at Hale's Hall on December 12th to 16th. Judge J. R. Lewis was chairman of the meeting. Alfred Barstow secretary. Other members of the joint committee present were A. Greeninger, W. P. Cragin, E. T. Pettitt, E. E. Smith, Mrs. Wingate and Mrs. Lewis. It was decided to secure as many carriages as possible and devote as much time as could he obtained outside of the business sessions to taking the visitors on drives through the orchard sections of the valley. Saturday, December 16th, will be devoted to an excursion to Stanford University, in which it is thought that all visiting delegates will participate.

Santa Cruz.

SUGAR BEET CONTRACTS FOR 1900.—Watsonville *Pajaronian*, Nov. 30: The Spreckels Sugar Co.'s contracts for 1900 provide for the payment of $4.50 per ton for heets grown in Pajaro valley and delivered at Watsonville, which is the same as is paid this year. The Pajaro valley heets are to be delivered at Watsonville, and if they are milled at Spreckels, the company, and not the grower, will pay the freight. The company will contract for a big acreage in this valley, and is ready to include in such contracts land which has heen planted to orchards less than four years. The Pajaro valley has a mammoth beet crop this year.

A VINEYARD THAT PAYS.—Santa Cruz *Surf*, Nov. 30: Three years ago L. Woodard purchased a vineyard of sixty acres in the Santa Cruz mountains. It has heen in charge of a superintendent and all work has been performed by hired help, so that to the owner it has been solely a matter of investment. Mr. Woodard states that in 1897 his returns from the vineyard were 12% net. Last year, with all the loss by the drouth, he cleared 8%, and this year he has in his pocket an amount equal to 18¼%. This makes an average of over 11% for these three years.

Tehama.

MUTTON SALES.—Red Bluff *News*: Charles H. Johnson purchased 1500 head of mutton ewes from Mrs. Stanford, to be shipped from the Vina ranch to San Francisco. We understand that the sheep are in prime condition and brought a little more than $3 per head.

SPECIAL TRAINS FOR TURKEYS.—Red Bluff *Cause*, Dec. 2: On Monday and Tuesday special poultry trains will run from northern California to San Francisco hy Wells, Fargo & Co.'s express. Shasta, Tehama, Colusa and Yolo counties ship great numbers of dressed turkeys to San Francisco. Redding is considered a very small shipping point for turkeys, and yet five tons of birds were handled just preceding Thanksgiving. Anderson and Cottonwood made heavy shipments. It is learned that 20,000 pounds of dressed turkeys were shipped from the Red Bluff office.

Tulare.

CROP PROSPECTS.—Tulare *Register*, Nov. 1: Plows are running in every direction all over the country, and nearly all are seeding as they plow. The late rains and a genial sun have transformed the plains from a dry drab into a beautiful green. The early sowing is looking nicely and the growth is well advanced.

Ventura.

EXPERIMENT FARM.—Nordhoff *Ojai*, Nov. 25: The Oxnard Co. has established an experiment station, under the direction of the agricultural superintendent, L. Hache. One hundred and eighty acres are set apart with a view of testing the crop-producing constituents of the soil, and it is believed that the experiments made will be safe for all classes of soil in the valley. It will he devoted to growing beets, beans and barley, to see what can be done to the best advantage with each, and also to determine the benefits to be derived from the use of commercial and green fertilizers.

ARIZONA.

IMMENSE IRRIGATION ENTERPRISE. — Albuquerque *Citizen*: Arizona will in the course of a few years have the greatest storage basin in the world. It is proposed to impound the water of the Salt river during the spring and winter and to draw upon this supply in the summer for irrigation and other purposes. This will he located in the mountains sixty miles from Phœnix. The United States Government has granted to the Hudson Reservoir & Canal Co. this basin, known as the Tonto basin, to be used as a storage reservoir. The company has completed all its engineering work, and plans and specifications for the dam have just been completed. It proposes to build a dam at the head of the canyon, where the river emerges from the basin, thus creating a lake, which will cover eighteen square miles to a depth of 100 or 200 feet. It will be necessary to build a dam 200 feet high and some 600 feet in length at the top, although the canyon is only 200 feet wide from the first 100 feet from the bottom. The Territory of Arizona has granted the company the use of the channel of the Salt river in which to convey the waters thus stored to the valley below, and the stored waters will therefore be turned back into the channel as needed and conveyed through the canyon for a distance of thirty miles to the head of the valley, where the first diverting dam will be located. An outlay of $2,500,000 is involved.

OREGON.

SHIPPING HOGS.—Oregon *Agriculturist*, Dec. 1: It is a common thing for the hogs of southern Oregon to be shipped to San Francisco instead of to Portland, and recently a shipment from the Willamette valley to San Francisco is reported.

NURSERY STOCKS EXHAUSTED.—Some of the nurseries in Oregon and Washington have already sold out so much of their stock that they are unable to fill orders. The demand for trees is reported to he very general and widespread this season.

WASHINGTON.

ESTIMATED HOP CROP.—Oregon *Agriculturist*, Dec. 1: Herman Klaher, a well-known hop dealer of Tacoma, estimates the hop crop of Washington as follows:

Counties.	*Bales.*
Chehalis	203
Clallam	70
Cowlitz	1,101
King	5,116
Lewis	4,000
Pacific	50
Pierce	8,686
Skagit	854
Snohomish	250
Thurston	64
Whatcom	89
Yakima	13,000
Scattering	500
Total	33,983

DAIRYMEN'S ASSOCIATION.— Seattle *Times*, Nov. 23: The seventh annual meeting of the Washington State Dairymen's Association will he held at North Yakima Dec. 28, 29 and 30. With reference to the meeting, Miller Freeman, secretary of the programme committee stated that "this organization of dairymen is the strongest and most active of any on the Pacific coast, and at the annual meetings there is always a large attendance of representative dairymen and creamerymen. Dairying has developed very rapidly and within the past five years has become one of the most important of our agricultural interests. The prices for hutter are uniformly higher in our markets throughout the year than any other part of the United States. The income is sure, and gives a good margin of profit at all times." Among those who will take part, and the subjects assigned to them, are: Prof. C. F. Curtis, "The Dairy Cow;" A. M. Stevens, proprietor of the Elmwood herd of Jerseys, Ellensburg, "Care of the Dairy Cow;" Prof. W. J. Spillman, agriculturist of the State Experiment Station, "The Troubles of the Breeder;" "Raising the Dairy Calf," by John L. Smith, manager of the Hazelwood dairy farm at Spokane; J. E. Seannon of North Yakima, civil engineer, "Laying Out an Irrigated Farm;" Prof. B. F. Linfield of the Agricultural Experiment Station of Utah will add his observation in the irrigated sections of that State; C. H. Stoltenberg, "The Silo in Western Washington;" its utility in the eastern part of the State will also be discussed; Prof. H. T. French, agriculturist of the Idaho Agricultural College, "Forage Crops;" "The Relations of the Commission Man to the Shipper" will be handled by W. J. Boggs of Seattle; Prof. Curtis, "Feeds and Feeding;" "Relation of Creamery Man to Patron," by B. F. Reed, proprietor of the Ellensburg creamery; "Handling Milk in Winter and Summer" will be taken up by a practical dairyman; "Everyday Troubles of the Dairy Cow," by State Veterinarian S. B. Nelson; Prof. E. Fulmer, State Chemist, "Adulteration of Food Products;" "The Dairy Industry," by Prof. Curtis; Prof. Spillman, "Testing Cream;" H. W. Maynard of the Olympia creamery will supplement the address with another on "Testing Milk." The editor of the Elgin *Dairy Report*, D. H. Wilson, the editor of the *Jersey Bulletin*, of Indianapolis, Ind., and H. F. Page, secretary of the British Columbia Dairymen's Association, are expected to he present.

Horse Owners! Use

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A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

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is the best remedy you can take. It soothes and heals and gives tone and strength to these delicate membranes. In this way you can prevent consumption. And you can cure it also if you haven't had it too long. Keep taking it until your lungs are strong and your weight restored.

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THE HOME CIRCLE.

Night-Time in California.

Night-time in California! There's nothing like it found,
Though to and fro you come and go and journey earth around;
The skies are like a crystal sea, with islands made of stars,
The moon's a fairy ship that sails among its shoal and bars,
And at the sea I sit and look and wonder where it ends;
If I shall sail its phantom wave, and where the journey tends,
And if—in vain I wonder, let's change the solemn theme,
For the nights in California were made for men to dream.

Night-time in California! The cricket's note is heard,
And now perhaps the twitter of a drowsy, dreaming bird;
An ore is splashing yonder, the wakeful frogs repiy,
The breeze is chanting in the trees a ghostly lullaby;
The moon has touched with silver the peaceful sleeping world,
And in the weary soul of man the flag of sorrow's furled.
'Tis a time for smiles and music; 'tis a time for love divine,
For the nights in California are Heavens this side the line.

Night-time in California! Elsewhere men only guess
At the glory of the evenings that are perfect—nothing less;
But here the nights, returning, are the wondrous gift of God,
As if the days were maidens fair with golden slippers shod.
There is no cloud to hide the sky, the universe is ours,
And the starlight likes to look and laugh in cupid-haunted bowers.
Oh, the restful, peaceful evenings! In them my soul delights,
For God loved California when he gave to her her nights.

—A. J. Waterhouse in Stockton Mail.

A Fight for Life.

"It's a long tramp, Jack."

"Yes, but the crust's hard and I can do it easy."

"You've done most a good day's work besides."

"Never mind that." Jack gave a proud little jerk of his head as he looked up from the gun he was carefully cleaning. "I'm most as big as a man and full as strong."

"You don't expect to do much hunting by the way, do you?"

"Only to keep a lookout."

The short winter day was closing in as Jack set out on his long walk—a walk under conditions not often experienced in these days, but not unusual twenty-five years ago in northern Wisconsin.

Forests extended in almst unbroken stretches for miles. A heavy snowfall had rejoiced the hearts of the lumbermen in the camps scattered at far distances from each other. Logging had been pushed on with energy until the cold weather had been interrupted by a day's rain, which had spread dismay among those depending on solidly packed roads.

But nature had been kind to the hard workers, for the softness had been followed by a period of cold almost unprecedented. For two weeks the temperature would have read far below zero had any of the forest laborers seen a thermometer to read.

The declining rays of the reddening sunset lent a sparkle to the snow as Jack briskly set out on his long walk. As the luminary took its last glance at the bleak world the moon arose, smiling over a cold appalling to any less sturdy than the forest laborers, who knew no other climate and rejoiced in conditions favorable to their work.

It was a great occasion which demanded Jack's presence at home—no less a one than the marriage of his oldest sister. The father was dead, and Jack, in his faithfully sustained position as man of the house, was already taking on a weight of care beyond his years.

His home lay ten miles distant from the lumber camp in which he did, as was his proud declaration, almost a man's work. In the other direction was the nearest small town, which Jack had taken occasion to visit a few days before on an errand of importance.

When fully out of sight of the camp and beyond all possible observation from any of its occupants, he paused to unfasten his tightly buttoned coat. The warmth at his honest heart kept him from feeling the bitterness of the cold on his hands drawn from the clumsy mittens.

A small parcel taken from his breast pocket—and the radiance of the sunset had nothing to do with the glow which lightened his face as he carefully loosened the wrappings to gaze on an ornament of colored glass set in brass, designed for the adornment of the bride.

"It's fine. And Abby'll think no end of it. There isn't a girl in the settlement that's got one like it.

"But," with a more sober face, as after looking at the sun rays as they shone through the glass and were reflected from the metal, he returned the jewel to his pocket, "it ain't up really to what I'd ought to do for Abby, and she gittin' married. Father'd 'a'given her somethin' of a settin'-out. All winter I've been watchin' for a bear. If I could 'a' got one and sold the skin I'd been able to do real well by Abby."

His mind was full of what this doing would have been had he possessed the means to carry out his loving desires. The log cabin which was to be his sister's home would, he knew well, be destitute of all but the barest conveniences. Deep in his heart lay the fond wish to distinguish it by some special luxury.

"P'raps I'll have luck yet before the winter's over," he soliloquized.

The sharp nip of the cold sent him on with brisk footsteps. He passed the last settler's cabin on his way, turned his back on the rough clearings and struck into a lumber road which penetrated deep into the heart of the dense woods.

But as he continued his walk his quick step was suddenly arrested. The voice of the wind, even in its angriest lashing of the lonely forest, never made a sound like that low-pitched, long-drawnout howl. Two or three times before in his life Jack had heard the dismal yell, but always under circumstances including no danger. How the men in the bleak north country hated the sneaking creature which preyed on the few flocks of sheep, would attack children or even a man if enough of them came together. Many a wolf story had Jack listened to beside the campfire. The animals were getting scarcer as the country gradually became more settled, but he had heard of cases in which the severity of the season had brought the ugly things in packs frightfully near the scattered homes.

He listened with every sense on keen edge. No, it was not the wind. Even in the short moment in which he stood still he could fancy that it grew louder, that snarling howl, broken by barks and yells. He looked carefully at the condition of his gun.

"I'm all right so long as I have you," he said, giving it a pat as he hurried on. "But—if that really is a wolf—or it might be two or three of 'em by the noise—the sooner I can get to the Holcomb clearin' the better I'll like it."

He increased his speed to a run, but the shortness of breath induced by the extreme cold soon brought him to a halt. And in the dead hush of the forest the apalling notes came with a distinctness which brought to Jack the first thought of peril.

Not one wolf, or two or three, but a pack, driven by starvation. Oh, the horror of that ceaseless yell! With all his strength the boy pressed on, terror adding speed to his limbs. It was for life, this race—he knew it well now. No gunshot would avail with that pack of yellow demons. The patches of moonlight were few and far between in the dense shadows of the trees, and with straining eyes he watched for the curve in the road which would bring him to Holcomb's clearing. But as the quick breaths of the pursuing enemy became distinguishable amid their barks and howls Jack realized that he had no hope of making it. Nearer, close by the roadside, he remembered an old cabin, long since disused as a dwelling, but occasionally temporarily occupied by settlers making their way farther on. How far he might find safety here he could only conjecture, but it was something in the way of a shelter.

The wolves were close behind as he dashed into the cabin, giving the door a desperate shove after him. No time to fasten it, for the yelps came in, too. But there were friendly rafters above, and with one leap Jack was among them.

With his head reeling, breath coming in heavy pants and a faintness in realizing the horror of his situation, Jack grasped the timbers. They were old—he could almost fancy they shook and swayed under him. He did not trust himself to a look below until he felt himself securely poised. It made him dizzier when at length he ventured a glance. There they were, the hungry demonds, leaping, snapping, enraged that their prey, so near, should yet be beyond their reach. Jack did not take a second look. With returning breath and steadier head he brought his strong common sense to the consideration of the situation.

"Howl away, you brutes. You think you're going to get me sooner or later, don't you? Not if I'm a woods boy."

How many of them were there? Would they never quit crowding in at that door? A few moments later he heard a dull slam through the din of snarling voices, and looked for the cause. The door had at length been pushed shut, and in one of the frantic leaps its heavy old wooden latch had fallen into place.

"Ah, here I am—locked in. Now what next? I wonder which of us would starve to death first," he muttered. "You, maybe," with another glance at his foes, "for you're hungry to begin with, and I'm not. Only I'm not so used to being hungry as you be."

Regaining his nerve and self-possession, he examined his surroundings with anxious eyes. He saw that so long as he looked well to his hold among the rafters he was in no present danger. But how was he to get out? The cabin was built of logs. He might work for days without making any impression on its solid sides.

But above him, within easy reach of his hands, was the roof, through which came small twinkles of blessed moonlight. He soon found that it was made of saplings laid close together, then finished with a thick covering of brush. To his great joy he found that decay had begun its work and the smaller saplings were ready to crumble under a vigorous touch.

But others were strong. They would yield only to slow cutting with his knife. His footing was precarious; with one hand he must continuously support himself.

He never could have told how many hours of frightfully exhaustive labor followed his conviction that through that roof lay the only hope of saving his young life, Once he stopped almost in despair.

"Must be about that weddin' time now," he groaned, his head dropping upon his free hand. "And if they knew—mother and all of 'em——!" At it again. As at length he could put his head out a new fear was growing. What if more of his pursuers were on the outside? Then there was no help for him. Shelterless, he would surely freeze to death before the cruel night would be over. Better that than the other. With bleeding hands, whirling brain, every muscle on a strain with the last effort, Jack pulled himself upon the roof and peered over its edge. No, there were no more. The glaring eyes, the gnashing teeth, the howls, the pandemonium—all shut in. With renewed strength, born of blessed certainty, Jack sped back to the camp for help.

It was a frolic such as woodsmen love; such as rarely comes to their monotonous lives—the shout, the exhilarating rush over the frozen snow, the keen relish for the hunt.

"Seems hardly fair, though, poor brutes—like takin' advantage of 'em, shut in so," said one.

But sentiment did not prevail, as one after another of the snarling voices was hushed.

"Seventeen of 'em, as I'm a livin' man. Jack, my boy, you'll be rich on your bounty."

Bounty! Jack had not had time to think of that—of the five good dollars paid by the State for each one of the ugly scalps. And to think of all the good things he could buy for Abby and for others!

"But," he began, "it belongs to all of you—you all helped."

"Not a bit of it, boy. Every cent of it goes to you. You 'most earned it with your life."

* * * * *

"The weddin's all over, of course," said Jack to himself as, late in the night, he drew near home.

But no wedding had taken place. Mother and Abby, with anxious faces, were sitting over the fire, and he was received with a rush of open arms.

"Where's Hiram?" was Jack's first inquiry.

"Hiram's gone back; he can only get away once a week, you know——"

"Gone! And without you?"

"And do you think there'd be any weddin' here without you, Jacky? And we not knowin' what might 'a' become o' you? The weddin's put off till next week!"

There was little delay in securing the bounty at the nearest county town. And Abby rejoiced in such a "settin' out" as few of the hard young homemakers had ever known.

Farmers' Reading Courses.

The U. S. Department of Agriculture has in press the bulletin prepared by Prof. L. H. Bailey, M. S., Professor of Horticulture in Cornell University, which gives a history of the organization of farmers' reading courses, which have become an important factor among the agencies for diffusing knowledge and promoting enthusiasm among farmers.

The bulletin reviews the farmers' reading courses in North America, beginning with that established in July, 1892, in connection with the Pennsylvania State College, which is stated to be the most famous single venture of its kind.

In 1898 the name of the enterprise which had been known as the Chautauqua Course of Home Reading, and as the Chautauqua Course of Home Study in Agriculture, became Correspondence Courses in Agriculture.

Printed lessons on particular subjects treated in various books, and on farm bookkeeping, are sent to students. These lessons are designed to bring the subject-matter of the books up to date, to describe simple experiments, to illustrate the subject, and to suggest the important or fundamental matters. The lessons are sent to the reader one at a time. Accompanying each lesson is a list of questions to be answered. The replies are sent to the superintendent of the reading course at the State College, and another les-

YOU would like the lamp-chimneys that do not amuse themselves by popping at inconvenient times, wouldn't you?

A chimney ought not to break any more than a tumbler. A tumbler breaks when it tumbles.

Macbeth's "pearl top" and "pearl glass"—they don't break from heat, not one in a hundred; a chimney lasts for years sometimes.

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son is then mailed to the reader. In this way the superintendent keeps in touch with the student. He can also exercise some control over the student by withholding lessons when the questions are not faithfully answered.

The Pennsylvania correspondence courses are five in number: Crop production, live stock production, horticulture and floriculture, dairying and domestic economy. Each course consists of seven distinct subjects or books, making thirty-five books in all. The reading courses of several States are conducted on similar lines to those in Pennsylvania.

The Cornell or New York plan is to give the farmer a short, specially prepared lesson, and then to quiz him on it. The motive is to reach the many, not the few. The farmer who can and will read books can take care of himself, but the one who can not or will not needs help, whether he wants it or not. The idea is to get the rank and file to read books by first interesting them in simple, short and easily digested matter. When the farmer is once interested it needs only good administrative machinery to keep him interested and to lead him on.

The ideal reading course system is that which joins the two ideas. Its general work is to touch and awaken every farmer, particularly every poor farmer; it searches out the man who has small opportunities. Its special work is to aid the few who are already successful: it accepts the man of fair or large opportunities. If the primary object of a reading course is a mission, the Cornell course would seem to be the better; but, if the object is a technical education, the Pennsylvania or curriculum system is the better. But, since the complete reading course is both a missionary and a schoolmaster, it is evident that the two systems should be conjoined. The bulletin contains lists of books used in various reading courses, and in an appendix representative documents used in various States.

December.

Decemher smltes the land with icy breath,
The days are short and drear;
The brooks, all pulseless 'neath their pall of death,
Attest the closing year.
The autumn days are o'er, and Winter comes
With haughty air and glance of sullen pride,
With lavish hand he seeks with jewels rare
The gnarled old branches of the trees to hide.

—Charles Pierce.

True.

He's true to God who's true to man; wherever wrong is done
To the humblest and the weakest 'neath the all-beholding sun,
That wrong is also done to us, and they are slaves most base
Whose love of right is for themselves, and not for all their race.

—Lowell.

"I HOPE my explanation is satisfactory," said Mr. Younghusband, as he concluded a long narrative as to why he had been detained down town until 1 A. M. "Well," yawned Mrs. Younghusband, "your excuse is fairly good, but it's not as good as father used to make."

Friendship is no plant of hasty growth.
Tho' planted in esteem's deep-fixed soil,
The gradual culture of a kind intercourse
Must bring it to perfection.

—Joanna Baillie.

Roses can't last all the year,
But each season brings its cheer;
Other joys there are; you know
Batter cakes deserve a show.

DOMESTIC ECONOMY.

Hints to Housekeepers.

A bit of economy as well as an improvement in the service of the egg in which croquettes or fried food is to be dipped before being rolled in bread crumbs is to add to it a teacup of boiling water. Use the whole egg and beat lightly to break it up before pouring in the water.

If it is needed to bake potatoes in a hurry, the process may be considerably shortened by putting them first in boiling salted water for ten minutes; they are then taken out and put into the oven, and will bake in a very short time. The object is to heat them through quickly, this process being slowly accomplished if left to the oven alone.

Delicious stuffed green peppers were served at a luncheon recently. Very large ones were chosen. They had been split lengthwise into halves, the seeds removed, and a mixture of bread crumbs and minced ham, well seasoned with butter, pepper and salt, placed in them. They were then moistened with tomato juice and baked in a hot oven until brown. A little chopped parsley was sprinkled over them just before they were sent to the table.

All the green stalks and tender leaves from the bunch of celery used for salad may be utilized in celery fritters. Clean and chop fine, and to one cupful of this chopped celery add one scant pint of flour, one beaten egg, one-half teaspoonful of salt, one-quarter of a teaspoonful of pepper, one teaspoonful of baking powder and sufficient milk to make a thick batter. This is dropped by spoonfuls into hot fat, and the fritters are drained on unglazed paper before being served.

Housekeepers have been relieved to find that breakfast cereals, according to the recent report of the chemists of the Agricultural Department, are seldom adulterated. It is, however, asserted by the same authority that the prices of these foods are not in proportion to their quality, and that some of those that sell for the lowest prices are as good as others selling for three or four times as much. All need more time for cooking than is advised on the packages.

For a delicate child or an invalid there is a simple preparation of meat which contains a great quantity of nourishment and yet is most easily digested. A half pound of round steak is laid on the board and scraped in the way of the grain with a strong silver spoon. The pulp readily comes off from the white, stringy muscles, and in a few moments enough has been secured for two cakes. They are salted and laid for an instant in a very hot, deep frying pan. They cook at once, and are most appetizing, and can be digested by the weakest stomach.

An old housekeeper, whose kitchen oil cloth is always the envy of visitors to her kitchen, explained the other day, when asked how she kept it so bright, that it had had a wash of glue water. Melt some glue in an ordinary glue pot. Wash the oil cloth and let it dry. In the evening, when there will be no returns to the kitchen, wash the oil cloth in a weak solution of the glue water with a flannel cloth. If the dry season of the year is chosen the floor will be dry by morning. This treatment given an oil cloth that is beginning to lose its luster will make it look like new. To keep it from fraying on the edges paint the edges around the room with a stronger solution of the glue water while it is hot.

Tongue cooked with sweet fruit may be a novelty to many, but it wins its way wherever served. Give it a preliminary simmering for two hours in boiling water, then skin it and trim off the roots. Put it in a clean kettle with one medium-sized onion, one-half of a carrot cut fine, six cloves and as many pepper corns tied up in a bit of thin muslin. Add one pound of prunes which have been soaked over night, one quart of water in which they were soaked, one pint of beef stock and one teaspoonful of salt, cover and simmer for two hours longer, serving the prunes round the meat.

Domestic Hints.

CHEESE AND CELERY SANDWICH.—Mince the tenderest, crispest of celery stalks fine and chill on ice. Add the same amount of grated cheese and enough whipped cream to make the mixture spreadable. Just before using spread on dainty, crustless squares and triangles of thin bread, white or brown.

SPICED APPLE JELLY,—Make as a plain apple jelly, and add to each pint of juice a stick of cinnamon, a few cloves and the juice and grated peel of one lemon. Boil fifteen minutes, steam through flannel, and add the customary pound of sugar to each pint. Boil one minute before putting in the glasses.

BEET SALAD.—Bake blood beets until tender, remove the skins and place on ice. Shred a white cabbage finely and sprinkle well with salt. Slice the beets on lettuce leaves, spread the cabbage over the beets and serve with a mayonnaise or a boiled dressing. The salad may be garnished with a few slices of beets cut into points.

LEMON CUSTARD. — Beat together eight eggs, one pound white sugar, juice of five large lemons strained and stirred in—not quite a pint of cold water. Stand the vessel containing the mixture in a farina boiler, stirring constantly. When sufficiently thick stand to cool, serving either in glasses or saucers, plain or with meringue, whipped cream, grated macaroons or jelly dropped on top.

SPANISH CREAM.—Three eggs, one and one-half pints milk, one-half box gelatine, six tablespoons granulated sugar. Flavor with vanila. Scald gelatine and milk in double boiler, stirring constantly. When cold add them to the yolks and sugar, previously well beaten. Then let all come to a boil. Beat whites to a stiff froth, which add to the mixture. Put in a mould, set on ice, and serve with whipped cream.

CANNED PEACHES.—In order to keep preserved fruit, a dark closet, well ventilated, is necessary. A paper bag placed over the jar will exclude the light if the closet is not sufficiently dark. The following recipe for preserved peaches will prove satisfactory: Pare the peaches and put them into a steamer, which must be tightly covered. When they have steamed for about fifteen minutes take the finest quality of sugar and make a syrup. Drop the steamed fruit into it for a few seconds and then can.

SCALLOPED OYSTERS. — Drain the liquor from a quart of oysters and boil and strain it. Carefully remove all bits of shell from the oysters, wash and drain them. Have ready some cracker crumbs made very fine. Butter a shallow baking dish. Put in a layer of oysters, over this spread a layer of crumbs, season with salt and pepper and dot plentifully with bits of butter. Add another layer of oysters and crumbs and alternate the layers until the dish is full, the crumbs well dotted with bits of butter on top. Beat an egg until light, stir in the strained oyster liquor and enough new milk to moisten all and pour it over. Bake in a hot oven about twenty minutes, or until well browned.

CROQUANTE OF APPLES.—Soften one-third of a box of gelatine in an equal amount of cold water; boil a cupful of sugar and a half cupful of water for five minutes, add the gelatine and stir until it is dissolved; remove from the fire, add a tablespoonful of lemon and two of orange juice and set the bowl in a panful of ice. Boil two cupfuls of sugar and one of water until the mass is brittle, then take from the fire; butter a plain mould, dip lady fingers or macaroons into the syrup and neatly line the bottom and sides, and set it aside to harden. When the jelly begins to stiffen beat until light, add the stiffly beaten whites of the eggs and whip until light and foamy all through; fill the mould and set in a cold place for four or more hours. Serve with chilled custard sauce or whipped cream.

Egg Filling for Tomatoes.

Choose six tomatoes of an equal size, cut off the top (not the stalk end) and partially remove the pulp, lard the top with strips of narrow bacon to form a wall around each tomato. Drop into every one a lump of spiced butter, then a raw egg. Lid the top of a skinned, blanched and stalked mushroom, which has been dipped into heated butter. Set the tomatoes side by side in a buttered dish, between them arrange six kidneys, that have been skinned, blanched and dipped into heated butter. Season the whole with pepper and salt, and screen it with fine bread crumbs. Place a plate upon the top of the dish, and set it in a good oven. Serve immediately.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Dec. 6, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	66 @65¼	70¼@69¾
Thursday	*——@——	——@——
Friday	65⅝@64⅜	70 @68⅞
Saturday	64¾@63¾	69¼@68⅜
Monday	64 @64¾	68⅜@69⅛
Tuesday	64⅝@65⅜	69 @69⅜

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	5s 7⅜d	5s 9¼d
Thursday	5s 7⅜d	5s 10 d
Friday	5s 6⅜d	5s 9⅞d
Saturday	5s 6⅝d	5s 9⅜d
Monday	5s 6⅝d	5s 8⅞d
Tuesday	5s 6¾d	5s 9⅛d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	*——@——	——@——
Friday	96 @ 96¼	1 06⅛@1 05
Saturday	——@——	1 04⅜@1 04¾
Monday	97⅛@——	1 04⅛@1 06⅛
Tuesday	98⅛@——	1 07⅝@1 06⅜
Wednesday	——@——	1 07 @1 06

*Holiday.

Wheat.

Spot values for wheat are hardly so good as a week ago, certainly no better. Speculative values have shown some reaction within the past few days, but they are virtually no higher than at date of last report, the recovery about covering the loss in the meantime, so it is difficult to see where the market displays any particular strength. The recovery in speculative prices is based on a small decrease in the "visible" supply and reports of Hessian fly in Ohio. Something more substantial will be necessary to cause any pronounced and permanent improvement. It looks very much as a speculative racket to secure new victims in the option business. If any good comes out of it to the spot market, there will be reason to give thanks, in a small way, however, as without option trading, or gambling on wheat prices, it is safe to assume that the actual market for wheat would be in better shape for the producer than it is at this date. At this writing (Wednesday noon) option markets are lower than yesterday.

The influences affecting wheat values have not changed very materially since date of last review in these columns. The market has developed no better condition for the selling interest, so far as spot wheat is concerned, the continued weakness being from same causes previously in force. The crop prospects continue good in both hemispheres, and with harvest near at hand in the southern part of the globe, importing countries have no occasion to be uneasy regarding the future, especially as most of them are now carrying fair supplies. A large crop is reported in Argentina, the same being now nearly ready for market, and the exportable surplus of last crop is not yet exhausted. In New South Wales the crop now maturing is reported to be the largest on record for that country, but as it is given at only 540,000 tons, it is much lighter than a good average yield in this State; still it cannot have otherwise than a bearish effect upon values, particularly of the California product, as the wheat in question is largely of the white varieties which are principally grown here. Another barrier to the advantageous sale of wheat will be experienced in about sixty days, and that is the tax for State and local government which attaches to grain remaining in the State and not in motion on the first Monday in March. The effects of this tax are generally fully discounted not less than thirty days before the date set for the assessor to make his charges. A more unjust law could not well be devised. The only hope for it ever being remedied is for the farmers of the State to keep calling attention of the legislators to the unfairness of the measure, and requesting the lawmakers to explain why a farmer who sells his wheat in January should escape a fine which is imposed by the State authorities upon the grower who sees fit to or is compelled to carry his wheat thirty days longer. Many shippers evade the tax on large quantities of grain by having the wheat or other cereal in transit on the first Monday in March. A law so easily evaded is of necessity an unjust burden on a few. Either the whole grain crop of the State should be subject to taxation or none of it. The ends of justice would be better subserved if the entire yield was exempt from taxes, no matter whether the wheat was in transit or transported in December or in May. The exports from California in November were larger than for any previous month this season, footing up thirteen cargoes, or an aggregate of 22,500 tons, with a valuation of $476,000. And this is the first time that stocks in warehouse have shown any decrease, the grain stored at Port Costa, Stockton and in this city having been reduced 16,000 tons within the past month. As there are now twenty-three ships in the grain-loading fleet in port, there should be a comparatively good outward movement of wheat the current month, and if the loading of these vessels necessitates any activity in buying, exporters may be compelled to bid up a little more freely than they have for some time past. The cargoes of most of the ships cleared thus far this season were secured before the ships were chartered. With ships in greater supply, this would not be so likely to be the case.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, 97½@98⅛c.
May, 1900, delivery, $1.04⅜@1.07⅝.
December, 1900, delivery, $1.10⅛@1.10.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at —— @ ——c; May, 1900, $1.07@1.06; Dec., 1900, $1.10⅛@1.10.

California Milling	$1 00 @1 05
Cal. No. 1 shipping, alongside	97½@1 00
Oregon Valley	95 @1 02½
Walla Walla Blue Stem	90 @1 02½
Walla Walla Club	80 @1 02⅛
Off qualities wheat	75 @ 90

LOCAL STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on December 1st and November 1st:

Tons—	Dec. 1st.	Nov. 1st.
Wheat	*236,004	251,975
Barley	†85,994	93,816
Oats	5 672	4,339
Corn	35	212

* Including 160,408 tons at Port Costa, and 73,868 tons at Stockton.

†Including 40,328 tons at Port Costa, 26,581 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show a decrease of 15,971 tons for month of November. A year ago there were 109,435 tons wheat in Call Board warehouses.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	6s10d@6s10½d	6s2d@6s2½d
Freight rates	25@26¼s	35@36¼s
Local market	$1.13¾@1.16¼	$0.97½@1.01¼

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

There is no improvement to record in the flour market and none likely to be experienced in the near future. It will be surprising if present values are long maintained. The market is exceedingly quiet, demand being slow, both for shipment and on local account. Stocks and offerings are considerably ahead of immediate requirements.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Although market on local account is quiet, and for the ordinary run of offerings inclines against sellers, values for the better grades, particularly for desirable export qualities, continue to be about as well maintained as for several week past, with very limited quantities of latter sort presented at present for sale. Six more clearances of barley have been made for Europe since the close of last review. The ship Pythomene carries 59,941 centals, value $59,941, for Hull. The ship Silverhorn cleared with 54,653 centals, value $51,900, for Cork, U. K. The ship Sardomene took 66,760 centals for Grimsby, England, value $43,223. The ship Arthur Fitger cleared with 58,504 centals, valued at $58,500, and the ship Glenbrook took as part cargo of 25,750 centals, valuation $26,404, these latter two cargoes taking clearances for Queenstown, there to receive orders for final destination. The French bark Rahane, clearing for Cork, U. K., carried 57,188 centals, value $51,470. The six cargoes make a total of 322,805 centals, value $290,638, a very good showing and far ahead of wheat. This swells the total shipments of barley for season to date to 141,500 tons, while of wheat the total clearances thus far this season do not aggregate 80,000 tons. Another vessel having the charter privilege of loading barley was added to the engaged list the past week. Much of the barley required for the ships now chartered has been already secured. Stocks of barley in Call Board warehouses are on the decrease, having been reduced 8,000 tons the past month, bringing the present total in same warehouses to 86,000 tons, as against 25,000 tons a year ago. Much of the barley now in stock is of low grade.

Feed, No. 1 to choice	80 @ 82½
Feed, fair to good	70 @ 77½
Brewing, No. 1 to choice	90 @ 97½
Chevalier, No. 1 to choice	1 05 @1 10
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, ——@——c.
December, 1899, delivery, 84@83c.
May, 1900, 80@79⅛c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, ——c. Nothing was done in barley options.

Oats.

There is a very healthy tone to the market for all good to choice oats, both white and colored descriptions, with offerings of the same of light volume and hardly equal to the immediate demand. Market for most desirable qualities is firm at the quotations. Poorer grades are being offered rather freely, with demand for such stock not very brisk, and the trend of prices in the main more favorable to the buying than to the selling interest. Much of the oats this season show more or less damage, largely due to rainy weather during harvest time. Stocks in local warehouses show an increase for past month of about 1,300 tons, being now given at 5,670 tons. A year ago they were 7,550 tons.

White Oats, fancy feed	1 25 @ —
White, good to choice	1 15 @1 22½
White, poor to fair	1 07½@1 12½
Gray, common to choice	1 10 @1 20
Milling	1 15 @1 25
Surprise, good to choice	1 20 @1 30
Black Russian	95 @1 07½
Red	95 @1 20

Corn.

Market for all kinds of this cereal is no lower than last quoted, but the tendency of values is downward, and it is a question of only a short time when prices will undoubtedly be at lower levels. Spot supplies continue light, but are expected to show decided increase in the near future. Eastern corn is now coming forward in moderate quantity, principally old crop. Only thirty-five tons corn were reported in local warehouses on 1st inst., as against 212 tons on Nov. 1st, or a month ago, and 1268 tons on Dec. 1st of last year. When stocks are considered, it is not surprising that the market has been ruling firm.

Large White, good to choice	1 10 @1 12½
Large Yellow	1 12½@1 15
Small Yellow	1 42½@1 45
Eastern Mixed	1 02½@1 07½

Rye.

Prices remain quotably about as last noted, with offerings light and a very fair inquiry. In a small way an advance on figures below noted might be realized.

Good to choice, new	1 05 @1 07½

Buckwheat.

Market is not appreciably lower, but lacks strength at current rates, millers not caring to stock up to any great extent at these figures. A small lot of this cereal arrived the current week from Oregon.

Good to choice	2 00 @2 10
Silverskin	— @ —

Beans.

No changes of moment have been developed since last review in the bean market, either in quotable rates or the general tone. There are no large spot supplies of choice to select qualities of any variety, nor are there likely to be at any date the current season, the crop having been cut down materially by damage from rains at threshing time. The outward movement is not of large volume at present, otherwise still stiffer figures would in all probability be ruling. Holders of dry and choice stock are not feeling uneasy regarding the future, being content to await developments. The only selling pressure observable is on damaged beans, and these are difficult to place at any figure, the majority of dealers refusing to give them consideration. The business doing at present is mainly in Lady Washingtons, Bayos and Pinks, spot supplies being largely of these varieties. At producing points, aside from Limas and moderate quantities of Pea and Small White, there are few other in quotable quantity than the kinds above named.

Pea, fair to good, 100 lbs	2 75 @3 00
Small White, good to choice	2 75 @3 00
Lady Washington	2 25 @2 40
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 50 @2 75
Bayos, good to choice	3 25 @3 50
Reds	3 75 @4 00
Red Kidneys	3 00 @3 50
Limas, good to choice	4 85 @5 00
Black-eye Beans	4 50 @4 75
Horse Beans	—— @——
Garbanzos, large	2 50 @2 75
Garbanzos, small	2 00 @2 25

Recent advices by mail from New York City give the following review of the bean market, prices quoted being per 60-lb. bushel:

White beans have shown a decided advance this week. Advices from primary sections have indicated a shortage and with available offerings here very light, prices have been forced upward rapidly. Just at the close last week a slight advance occurred and prices have improved daily since then, with Pea generally bringing $2.05 for barrels at the close and $2 has become well established for bags; in fact most holders are asking more money. Scarcely any Medium available and quotation largely nominal. Marrow are generally held at $2.30 for best old but not much business above $2.25@2.27½ as yet, and best new range from $2.15@2.20. White Kidney have advanced fully 10c. Red Kidney have had a little export demand and sales reported at both $2.30 and $2.35 with stock held with more confidence toward the close. Yellow Eye have advanced 10@15c but other beans have shown little change in price. Limas are quiet at $3.30@3.35. Green peas have continued quiet but generally steady.

Dried Peas.

Stocks are of small compass, both of the Green and Niles varieties, with no evidence of there being many at producing points to come forward. Market is firm at the quotations.

Green Peas, California	2 10 @2 25
Niles Peas	2 10 @——

Wool.

So far as the general condition of the market for wool is concerned, there is little to be said beyond what has been previously reported. There is a strong tone, with active inquiry for both scoured and grease wool. Stocks are showing steady and rapid reduction, and give promise of being of very insignificant proportions by the end of the year. Since last review there were forwarded via steamer and Canadian Pacific 20,283 lbs. scoured wool to Hatfield, Conn., and 50,010 lbs. grease wool to Boston, Mass. This is usually a dull month in the wool trade, but there is plenty of life in the wool quarter at present. There would be still more activity if the wools were obtainable in greater quantity, and it was possible to get them more rapidly in shape for shipment, as also to secure immediate transportation to Eastern manufacturing centers. The wool warehouses will show barer floors at the end of the season than they have for many years, and conditions will be the very best possible for the marketing of the new clip. Next spring's fleeces should prove above average quality, judging from the weather thus far this season. With the quality high grade, there will undoubtedly be sharp competition among buyers.

SPRING.

Oregon Eastern, choice	12 @14
Oregon Eastern, fair to good	10 @12
Oregon Valley	15 @17



FALL.

Humboldt and Mendocino	14 @15
Middle Counties	8 @10
Northern, free	9½@11½
Northern defective	8 @10
Southern Mountain	7½@ 8½
San Joaquin Plains	6½@ 7½
San Joaquin Lamb	8 @ 9½

Hops.

There is little positive demand from any quarter, and such as exists, whether on foreign or home account, is principally for most select qualities, buyers being willing to take hold of such stock, even as a speculative holding, if they can secure the same at low figures. For other than choice there is virtually no inquiry. There are considerable quantities of good average hops offering, which owners are anxious to dispose of. Holders not only fail to secure custom as a rule, but find dealers unwilling to give the hops an inspection. Shipments by sea the past week were about 500 bales, mostly on consignment to Australia.

Good to choice, 1899 crop	8 @11

The following information of the hop trade comes through by recent mail from a New York authority:

The receipts here have shown quite a little increase, which makes the movement of hops appear a little larger, though very little business is doing between dealers. Brewers have shown some increase of interest and more trading reported on that account than of late. Exporters find few hops here of suitable quality, and bulk of buying on that account is at points of production. A fair movement is reported in the country at a very wide range in prices, say from 6½@7c up to 13@13½c which shows the generally irregular quality of the late crop. From the Pacific coast continued buying is reported all the way from 7 to 11½c. Prices are without quotable change, but the comparatively moderate proportion of choice grades holds the market firm for such quality. Foreign advices do not indicate any material change on the other side.

Hay and Straw.

The market for hay is without improvement, the demand continuing light, even for best qualities, at fully as low figures as have been current at any date this season. In a small way strictly choice Wheat hay sells up to $10 per ton, but such hay is offered so sparingly and such transfers are so rare that the figure is not quotable in a regular way. With plenty of green feed assured for the coming spring, and the heavy amount of hay still on hand, it is certain that large quantities of hay will have to be carried into the coming season. The most ordinary was a year ago held above the figures which are now asked for the most select.

Wheat	7 00@ 9 50
Wheat and Oat	7 00@ 9 00
Oat	6 50@ 8 50
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	——@——
Compressed	7 00@ 9 50
Straw, ₱ bale	30@ 45

Millstuffs.

Although Bran is not in heavy supply, the market is weak and lower, the demand being of small volume and is likely to be still lighter in the near future. Prices for Middlings ruled fairly steady, with offerings and inquiry both of slim proportions. Rolled Barley inclined in favor of buyers. Stocks of Milled Corn are on the increase and the market shows an easier feeling.

Bran, ₱ ton	13 50@14 00
Middlings	16 00@19 00
Shorts, Oregon	13 00@16 00
Barley, Rolled	17 00@17 50
Cornmeal	23 50@24 00
Cracked Corn	25 00@ ——

Seeds.

Some shipments of Mustard Seed are being forwarded East, the transfers having been effected over a month ago. The past week 42,600 lbs. went forward via Panama steamer for New York. Stocks are now so insignificant that values are largely nominal. In other seeds there is no noteworthy trading to report and no changes of consequence to note in quotations.

	Per ctl.
Mustard, Trieste	3 25@3 50
Mustard, Yellow	4 25@4 50
Flax	2 00@2 25
	Per lb.
Canary	3⅛@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	8½@9

Bags and Bagging.

Market is very quiet and is likely to remain so for several months. New business in Grain Bags promises to be at lower figures than lately current, while Wool Sacks will be apt to rule higher than now quoted. Calcutta Grain Bags, importation of 1900, are quoted at 6@6⅛c. ex-ship, as to quantity and time of delivery.

Calcutta Grain Bags	6⅛@ 7
San Francisco Grain bags, 22x36, spot	6⅛@ 7
State Prison bags, per 100	—@—

Wool sacks, 4 lb		—@30
Wool sacks, 3½ lb		—@28
Gunnies		—@12½
Bean bags		4⅞@ 5¼
Fruit sacks, cotton		6¼@ 7

Hides, Pelts and Tallow.

Hides continue to arrive sparingly, compelling tanners to pay stiff prices. In the Pelt market values remain quotably about as last noted, with stocks of moderate volume. Tallow is in ample supply for tbe demand at current rates, tbe market lacking firmness.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, bair slips, side brands or murrain, are not always readily placed at tbe lower quotations.

	Sound.	*Culls.*
Heavy Steers, over 56 lbs	11½@—	10½@—
Medium Steers, 48 to 56 lbs	10½@—	9½@—
Ligbt Steers, under 48 lbs	10 @—	9 @—
Heavy Cow Hides, over 50 lbs	10½@—	9½@—
Ligbt Cow Hides, under 50 lbs	10 @—	9 @—
Wet Salted Klp	10 @—	9 @—
Wet Salted Veal	10 @—	9 @—
Wet Salted Calf	11 @—	10 @—
Dry Hides	18 @—	14 @—
Dry Kip and Veal, 11 to 16 lbs	17 @—	13 @—
Dry Calf, under 4 lbs	18 @—	15 @—

Honey.

Values are being maintained at previous range, witb stocks light of all descriptions. It is doubtful if five carloads of honey could now be secured in tbe whole State. Shipments by sea the past week were over 300 cases, the major portion being destined for New York.

Extracted, White Liquid	7½@ 8
Extracted, Ligbt Amber	7 @ 7½
Extracted, Amber	5 @ 5½
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

Good to choice, ligbt, ℔ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Market for Beef inclined slightly in favor of tbe consuming interest, but quotable values were without material change. Veal is temporarily in ligbt stock, with market firm at current quotations. Prices for Mutton continue at former range, supply being equal to tbe immediate requirements. Lamb is selling to fair advantage. Tendency on Hogs was to easier figures on large, the supply being somewbat greater most of tbe week tban was warranted by the demand at full current rates. Prices for small hogs remained firm.

Beef, 1st quality, dressed, net ℔ lb	7 @ 7¼
Beef, 2d quality	6½@ 6¾
Beef, 3d quality	6 @ 6½
Mutton—ewes, 6½@7c; wetbers	7 @ 7¼
Hogs, bard grain fed, medium	5½@ 5⅝
Hogs, small, fat	5⅜@ 5½
Hogs, large hard	5⅛@ 5¼
Hogs, acorn-fed	— @—
Hogs, feeders	5 @ 5½
Hogs, country dressed	5¾@ 6
Veal, small, ℔ lb	8 @ 9½
Veal, large, ℔ lb	8 @ 9
Lamb, spring, ℔ lb	8 @ 8½

Poultry.

At the close of last week the poultry market was demoralized, especially for poor Turkeys, dressed, of wbicb there was a glut from the East. Large quantities of tbis poor stock were sold within range of 7@10c per lb. Some scrubby and tainted were dear at the lower figure and should bave been condemned. Arrivals of all kinds of California poultry were ligbt during tbe past few days, but there was more than a sufficiency of Eastern for the demand.

Turkeys, Dressed, ℔ lb	14	@	18
Turkeys, live bens, ℔ lb	11	@	13
Turkeys, live gobblers	11	@	13
Hens, Cal., ℔ doz	3 50	@4	50
Roosters, old	3 50	@4	00
Roosters, young, (full-grown)	3 50	@4	00
Fryers	3 50	@4	00
Broilers, large	3 50	@4	00
Broilers, small	3 00	@3	50
Ducks, ℔ doz	3 50	@5	50
Geese, ℔ pair	1 75	@2	00
Goslings, ℔ pair	1 75	@2	00
Pigeons, Old, ℔ doz	1 00	@—	
Pigeons, Young	1 75	@2	00

Butter.

Values for fresh product bave not changed materially since last review. Cboice to select qualities were in fair request at current rates, tbe demand being about up to tbe supply, so there were no appreciable accumulations of desirable goods. Defective qualities moved slowly at easy prices. In packed descriptions tbe light trade doing was at generally unchanged rates.

Creamery extras, ℔ lb	26 @—
Creamery firsts	25 @—
Creamery seconds	24 @—
Dairy select	24 @—
Dairy seconds	19 @22
Dairy, soft and weedy	— @—
Mixed store	14 @16
Creamery in tubs	18 @21
Pickled Roll	— @—
Firkin, Cal., cboice to seleot	19 @22
Firkin, common to fair	16 @18

Cheese.

Trade is of moderate volume, with supplies fully equal to tbe demand, unless it be of a few favorite marks of extra select new, such going in a small way at higher rates tban quoted. For mild cheese, however, and ordinary qualities of new, the market cannot be termed particularly firm, although not quotably lower.

California fancy flat, new	12 @—
California, good to cboice	10½@11½
California, fair to good	10 @11
California Cbeddar	—@—
California, "Young Americas"	10½@12½

Eggs.

Tbere bave been further declines in values for fresh eggs, with market unsettled. Demand has been so slow for high-priced stock that receivers have been quite uneasy, not caring to be caugbt with accumulations, even of small proportions, on a dropping market. Prices have been cut down 7½@10c from extreme figures of past fortnigbt, and fully balf of this break bas been within the current week. It is not likely there will be very pronounced breaks from existing rates until after tbe holidays. Held eggs remain in heavy stock, and are being offered at low figures.

California, select, large wbite and fresb	37½@—
California, select, irregular color & size	32½@36
California, good to cboice store	25 @30
Eastern, as to section and grading	20 @24
Eastern, cold storage	17 @20

Vegetables.

Stocks are light, and for desirable qualities the market is in the main firm. Aside from a few winter vegetables, Los Angeles is furnishing a considerable proportion of present supplies, consisting of String Beans, Summer Squash, Egg Plant, and new Tomatoes. Tbe Onion market is firm for sound and uncut, some overbauled stock selling above quotations.

Beans, String, ℔ lb	5@	8
Beans, Lima, ℔ lb	—@	—
Cabbage, cboice garden, ℔ 100	50@	60
Cauliflower, ℔ doz	50@	—
Cucumbers, Alameda, ℔ large box	25@	50
Egg Plant, ℔ lb	8@	10
Garlic, new, ℔ lb	3½@	5
Musbrooms, Buttons, ℔ lb	15@	—
Musbrooms, wild, ℔ box	5@	10
Okra, Green, ℔ box	1 25@	1 50
Onions, Yellow, good to choice, cental	90@	1 10
Peas, Sweet, Garden, ℔ lb	6@	8
Peppers, Green Cbile, ℔ box	40@	75
Peppers, Bell, ℔ large box	75@	1 00
Rbubarb, ℔ box	75@	1 00
Squasb, Marrowfat, ℔ ton	8 00@	12 00
Squasb, Summer, ℔ box	75@	1 00
Tomatoes, River, ℔ box	—@	—
Tomatoes, Bay, ℔ box	20@	50

Potatoes.

There is no surplus of choice potatoes, and values for best are being well sustained, but there is a glut of common qualities, not only from producing points in this State, but also from Oregon. For latter sort tbe market is decidedly weak, most buyers refusing to take hold, no matter how low the figures named. Sweets were in liberal receipt, and market was more favorable to tbe buying tban to tbe selling interest.

Burbanks, River, ℔ cental	50 @	75
Burbanks, Bay counties, ℔ ctl	— @	—
Burbanks, Humboldt	70 @	1 10
Burbanks, Oregon	60 @	1 10
River Reds	50 @	70
Burbanks, Salinas, ℔ cental	1 00 @	1 25
Sweet River, ℔ cental	75 @	1 00
Sweet Merced	1 00 @	1 10

The Fruit Market.

Fresh Fruits.

The apple market is well stocked with ordinary qualities, but strictly select apples, such as high-grade Spitzenberg or equally desirable fruit, are in scanty supply and in good request, commanding in a regular way up to $1.25 per full box of regulation size, with small sales up to $1.50. For otber than fancy qualities, bowever, the market is slow and weak, and especially is the situation for most ordinary qualities unfavorable to tbe selling interest. Lady Apples are not being sought after just now; tbere will be some demand in a week or two on holiday account for this fruit, but it must be well colored and bright and waxy appearing on the surface to sell readily or to command what could be termed good figures. If very fine, tbey will probably sell in a moderate way at an advance on extreme quotations. Pears are not making much of a display at present, but prices sbow no quotable cbange, and for otber than select Winter Nelis, or equally desirable fruit, the market lacks firmness. Persimmons met with rather slow sale and prices averaged lower tban had been ruling. Single layer boxes sold down to 25c. Grapes were in only moderate supply, but demand for tbem was ligbt and they met with a very unsatfactory market, quotable rates being considerably lower than last noted. In tbe line of domestic Berries there were very few offering, even Strawberries making a very limited display; neither was there much inquiry, most of the berry fruit being now unseasonable and consequently not much sougbt after. Cranberries were in liberal supply from tbe East and the market was easy in tone, with sales mainly witbin range of $7.50 @9.00 per barrel. The Oregon product continued to be quoted at $1.50@2 per busbel box.

Apples, fancy, 4-tier box	1 00@	1 25
Apples, good to cboice, ℔ 50-lb. box	75@	90
Apples, common to fair, ℔ 50-lb. box	35@	60
Apples, Lady, ℔ box	75@	1 50
Grapes, Black, ℔ crate	—@	—
Grapes, Muscat, ℔ crate	—@	—
Grapes, Tokay, ℔ box, 40@65c; ℔ crate	50@	75
Grapes, Cornicbon, ℔ crate	50@	75
Grapes, Isabella, ℔ crate	—@	—
Pears, Winter Nelis, ℔ box	75@	1 25
Pears, cooking varieties, ℔ box	40@	50
Persimmons, ℔ 2-layer box	40@	65
Plums, ℔ box	—@	—
Pomegranates, ℔ box	—@	—
Quinces, ℔ box	25@	50
Raspberries, ℔ cbest	—@	—
Strawberries, Longwortb, ℔ cbest	—@	—
Strawberries, Large, ℔ cbest	3 00@	5 00
Whortleberries, ℔ lb	4@	7

Dried Fruits.

Tbe market for cured and evaporated fruits is showing little life, wbich is to be expected just prior to the mid-winter bolidays. Wbile tbe quiet condition existing is perfectly natural at this date, it is, nevertbeless, baving a depressing effect on the market. Most dealers report values practically unchanged, but weakness for the few varieties of which there are supplies of notewortby magnitude. This is about the situation in the dried fruit market, summed up briefly: To purchase freely from jobbers, buyers would likely find it necessary to pay close if not fully up to tbe best figures lately current, while if dried fruit was now crowded to market, materially lower figures tban are nominally current would bave to be accepted. Under tbe circumstances, values at the moment are necessarily poorly defined, and tboroughly accurate quotations are difficult to name. It is only by buyers and sellers coming down to business tbat values can be determined. Apple market shows weakness, not on account of beavy supplies bere, but owing to increased offerings and a lower market East. Peaches are dragging and market is in poor shape for crowding business, as stocks East are of fair proportions and are being offered at relatively lower figures than are current here. The Fig market is handicapped by heavy importations on the Atlantic side, wbich are selling under recent values for domestic. Dullness and weakness are ruling in the Prune trade just now on account of a lack of desire on the part of dealers to stock up heavily and on account of unfavorable weather East for this fruit entering freely into consuming channels.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½@12
Apricots, Royal, fancy	12½@13
Apricots, Moorpark	13 @15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½@ 8
Apples, 50-lb. boxes, rings, pressed, good to cboice	6 @ 7
Figs, Wbite, fancy pressed	6½@ 7½
Peacbes, unpeeled, good to cboice	5 @ 6
Peacbes, unpeeled, fancy	7 @ 7½
Peacbes, peeled, in boxes	12 @15
Pears, unpeeled Bartletts, balved, fancy	9 @10
Pears, balved, unpeeled Bartletts	6½@ 8
Pears, quartered, unpeeled Bartletts	6½@ 7½
Plums, Black, pitted	6½@ 7½
Plums, Wbite and Red, pitted	7 @ 9
Prunes, in sacks, 40—50's	4 @ 4½
50—60's	3½@ 3¾
60—70's	3¼@ 3½
70—80's	3 @ 3¼
80—90's	2½@ 2¾
90—100's	2 @ 2½
110—130's	—@—

Prunes in boxes, ½c bigber for 25-lb boxes, ¼c bigber for 50-lb boxes.

4 sizes Santa Claras and equal	2¾@ —
4 sizes San Joaquin and Nortbern	2¼@ 2½
Prunes, Silver	4 @ 7

COMMON SUN-DRIED.

Apples, sliced	4 @ 5
Apples, quartered	4 @ 5
Figs, Black	3 @ 4
Figs, Wbite	—@—
Peacbes, unpeeled	—@—

Advices of recent date by mail from New York City furnish tbe following report of the dried fruit market:

Demand for evaporated apples has been moderate and with continued weak advices from primary sections, market has ruled easy and prices show a slight decline; stock is offering from primary points for future delivery at lower figures than now current and our outside quotations are ratber for spot goods. Sun-dried apples are in moderate supply and meeting a good demand at well sustained prices. Chops dull and easy, and cores and skins rule weak and lower. Small fruits in limited supply and generally bigb. California fruit bas met good outlet at steady prices.

Apricots, Cal. Moorpark, 1899, per lb	15 @17½
Apricots, Cal. Royal, 1899, per lb	13 @14
Peacbes, Cal., 1899, peeled, per lb	18 @22
Peacbes, Cal., 1899, unpeeled, in boxes, lb.	8½@ 9
Peacbes, Cal., 1899, unpeeled, in bags, lb.	8 @ 9
Prunes, Cal., 1899, per lb	3½@ 7

Raisins.

Tbe market remains favorable to tbe producing interest, so far as demand and prices obtainable are concerned, but the Growers' Association labors under the disadvantage of baving very few raisins to sell. About the only offerings at present from first hands are a few medium grade loose Muscatels and moderate quantities of high-grade Sultanas. Values for most kinds of raisins must be regarded as largely nominal.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ℔ box	$3 00@—
Do do 5-crown, ℔ box	2 50@—
Do do 4-crown, ℔ box	2 00@—
Do do 3 crown, ℔ box	1 60@—
Do do 2-crown, ℔ box	1 50@—
Valencia layers, ℔ 20-lb box	80@1 00

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	7 @ —
Loose Muscatel, 3-crown	6¼@ —
Loose Muscatel, 2-crown	5½@ —
Loose Muscatel, seedless	5 @ —

Pacifics.—2-crown loose Muscatel, 5¼c; 3-crown, 6c; 4-crown, 6½c; seedless, 4¾c.

Orientals.—2-crown loose Muscatel, 4¾c; 3-crown, 5½c; 4-crown, 6c.

(Above prices for loose raisins are for 50-lb. boxes.)

Thompson Seedless.—Bleacbed fancy, ℔ lb., 10c; cboice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleacbed fancy, ℔ lb., 8½c; cboice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ℔ lb., 5½c; cboice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ℔ lb., 7c; cboice, 6c; standard, 5c.

Citrus Fruits.

Oranges are in quite liberal supply, but being mostly under ripe and with the weather frosty, it can be readily seen that tbe conditions are unfavorable for a healthy market. Extreme quotations are based on figures realized in a small jobbing way. Lemons move slowly, with prices as favorable to consumers as previously quoted. Limes continue to be offered at easy figures.

Oranges—Navels, ℔ box	2 00@ 3 00
Cal. Seedlings	1 25@ 2 00
Cal. Tangerine, ℔ box	—@—
Grape fruit, ℔ box	1 25@ 2 50
Lemons—Cal., seleot, ℔ box	3 00@ 3 50
Cal., good to cboice	1 50@ 2 50
Cal., oommon to fair	75@ 1 25

R. Hall's Pulmonary Balsam,
For COUGHS and COLDS.
J. R. GATES & CO., Druggists,
417 Sansome St., San Francisco.

MOORE, FERGUSON & CO.
WOOL, GRAIN, FLOUR
—AND—
General Commission Merchants,
310 CALIFORNIA ST., S. F.
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☞Personal attention given to sales and liberal advances made on consignments at low rates of interest.

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Fertilizers containing at least 8 to 10% of Potash will give best results on all fruits. Write for our pamphlets, which ought to be in every farmer's library. They are sent free.

GERMAN KALI WORKS,
93 Nassau St., New York.

Limes—Mexican, ℔ box	4 00@	4 50
Cal., small box	75@	1 25

Nuts.

Almond market is dull and against sellers, especially for Sbelled, which are relatively in larger supply than Unsbelled. Walnuts are not meeting with much inquiry, and although offerings are not large, the immediate market lacks firmness. Peanuts are not offering in large quantity from any quarter and values are being well maintained.

California Almonds, shelled	19 @21
California Almonds, paper sbell, ℔ lb	11 @12
California Almonds, soft sbell	10 @11
California Almonds, bard sbell	6 @ 7
Walnuts White, paper sbell	— @—
Walnuts White, soft sbell	11 @11½
Wainuts White, Cal., standard	9½@10½
Cbestnuts, Cal. Italian	10 @12½
Peanuts, Cal., fair to prime	4½@ 5
Peanuts, Eastern band-picked	6 @ 7½
Pine Nuts	5 @ 6

Wine.

The market is almost featureless at present date, being between seasons, and this condition is likely to prevail for a month or more before there will be any business of consequence in this year's vintage. For claret from one to three years old, quotable values remain nominally as before noted, 15@20c. per gallon, as to quality and other conditions, San Francisco delivery. Since last review the Panama steamer took 23,952 gallons and 21 cases wine, including 19,800 gallons for New York. A small shipment of 1,600 gallons went forward by a French schooner for Tahiti, Society Islands.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from tbe producer, and on round lots delivered at San Francisco. The reviews of tbe markets are for tbe week ending Wednesday noon, wbile quotations are based on values current on above dates. It is the aim of tbe PACIFIC RURAL PRESS to bave its quotations represent as nearly as possible the existing values. It sbould be remembered, however, tbat at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, bigher figures are realized than are justified as quotations. On tbe other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Produce Receipts.

Receipts and exports of leading cereals and other California products for tbe past week and for tbe season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		*Since July 1, '99.*	*Same Time Last Year.*
Flour, ¼-sks	94,610	2,329,094	2,078,526
Wbeat, ctls	106,503	1,845,409	1,421,951
Barley, ctls	148,329	3,428,817	729,963
Oats, ctls	12,240	440,686	442,605
Corn ctls	3,620	55 215	77,490
Rye, ctls	640	77,257	14,930
Beans, sks	5,809	259,175	264,481
Potatoes, sks	26,789	559,752	546,445
Onions, sks	2,706	99,788	104,024
Hay, tons	3,030	85,615	75,219
Wool, bales	884	34,182	27,451
Hops, bales	162	6,333	10,081

EXPORTS BY SEA.

FOR THE WEEK.		*Since July 1, '99.*	*Same Time Last Year.*
Flour, ¼-sks	80,736	1,352,483	1,301,432
Wbeat, ctls	77,348	1,490,668	718,693
Barley, ctls	85,272	2,593,280	221,653
Oats, ctls	881	23,223	12,363
Corn, ctls	1,111	8,210	9,031
Beans, sks	1,870	11,671	66,621
Hay, bales	1,844	48,988	31,255
Wool, lbs	20,283	2,911,472	954,918
Hops, lbs	103,077	546,464	1,001,399
Honey, cases	304	3,053	4,396
Potatoes, pkgs	5,130	37,165	24,302

California Dried Fruit at New York.

NEW YORK, Dec. 6.—California dried fruits; Rather dull, but steady. Evaporated apples, common, 6@7c; prime wire tray, 7¾@8c; cboice, 8¼@8½c; fancy, 8½@9c.

Prunes, 3½@8c.

Apricots, Royal, 13@15c; Moorpark, 15@18c.

Peaobes, unpeeled, 7½@10c; peeled, 20@22c.

Newest Ideas in Automobiles.

Since the advent of the automobile this paper has given the latest accurate illustrated accounts of this innovation in transit, and as a matter of interest are shown the newest ideas in the "horseless carriage" line. Additional interest attaches to the automobiles depicted herewith, as, in addition to we do say that we have one that is provided with a motor, carburetor and steering apparatus that meet all the requirements, and the machine as an automobile is capable of going every day up and down the ordinary grades at a speed suitable for such navigation, without fear of a breakdown at every cross road. The motor runs almost as noiselessly as an electric motor, there is no odor, no dan-



FIG. 1.—AN AUTOMOBILE FOR THE MOJAVE DESERT.

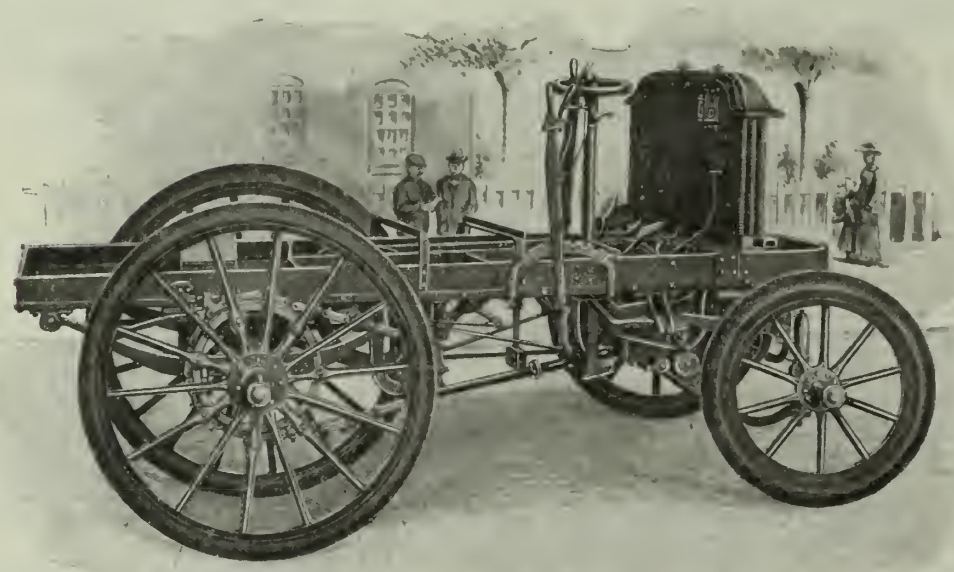


FIG. 2.—RUNNING GEAR FOR AUTOMOBILE TRUCK.



FIG. 3.—THE LATEST HORSELESS CARRIAGE.

steam, electricity, gas engine and compressed air, another motive power enters the field, and in the machines illustrated on this page the Auto-Acetylene Co., of New York City, claim to have a motor that works successfully.

Of this motor one of the officers of the company says: "It has carried one of our wagons over the road for 6300 miles with but one accident, and the motor to-day is to all appearances as perfect as it was the first month it was in use. All we claim for our automobile is that it works successfully. We do not claim we have the only thing in existence, but ger of explosions, and the operator is not compelled to take out a license as an expert engineer in order to be allowed to manipulate our automobile, nor must he be an expert electrician. A child ten years of age can be taught to operate our wagon in a few hours' time, and it is as easy to start or stop as anything of the kind possibly can be."

American ingenuity finds full field for exercise in producing new types of automobiles, and practical use will demonstrate which is best deserving of commendation. Fig. 1 depicts what its makers call a "desert express." The one illustrated is intended for use at Mojave, Cal., a wagon weighing 5400 pounds, the motor one of 23 H. P., with a speed when fully loaded of three miles an hour.

The idea is a progressive one, and, as such idea, deserves commendation, but many objections exist, probably not calculated on by the New York projectors. Were everything in connection with the concern to work all right, the man who had the price of such an outfit might find it under certain circumstances a comfortable and profitable investment, but a breakdown on the Mojave desert is a very different proposition from one within a few blocks or miles of a machine shop or supply depot.

Fig. 2 shows the heavy running gear of one of the Auto-Acetylene Co.'s large, heavy automobiles. Like the "Mojave desert express," it has rubber-tired wheels, which, probably, in rough use would be discarded for an iron wide tire. Fig. 3 shows a carriage for family or touring purposes, a roomy, comfortable conveyance, weighing 700 pounds, burning ordinary gasoline and capable of a speed of twenty-five miles per hour.

Something About Wireless Telegraphy.

The fundamental principle on which space telegraphy—"wireless telegraphy"—rests was first noted and mentioned by an American—Prof. Jos. Henry of Washington, D. C., in 1842. He was experimenting with an old-fashioned electrical machine—one of the revolving-glass-plate sort which makes sparks. He was passing the sparks from this machine through a long iron wire shaped into a coil. He observed that every time a spark jumped there was marked evidence of electrical action in another coil some distance away. He placed this second coil in the basement of the building, three stories below the room where he was at work, and even at that distance the action in the second coil was "strong enough to magnetize needles." This was wireless communication on a 30-foot scale.

It is obvious that, if one phenomenon at A invariably produces another phenomenon at B, there must be some communication between A and B. It is impossible to conceive of one action influencing another action without some sort of connection. The connection may be roundabout, complicated or invisible; but it exists somewhere, or the second action could not occur.

Henry, therefore, knew that there was something which connected the two coils in his laboratory, or at least that there was something which they had in sympathetic communion. He called this something "an electrical plenum." Modern scientists call it "the ether." They mean the same thing. To name a thing, however, is not necessarily to understand it. Although one knows that the ether exists, and can prove its existence in various ways, none know else about it. There are some theories concerning it, one of which may be the truth; but, so far as accurate knowledge goes, the ether is at present one of the deepest secrets of nature. However, as it is through this ether that wireless telegrams are sent, it is necessary for the purpose of explanation to attempt to give some idea of it, or rather some idea of what it is believed to be. Suppose one imagines all space filled with a marvelous sort of jelly—a jelly invisible, imponderable, intangible and continuous—without a rift or break or crack in it anywhere, and further imagines this jelly to be of such a fine texture that it can and does penetrate between the very atoms of matter; that the atoms float in the jelly like a handful of currants in a real jelly, or like a handful of fine shot in a pot of semi-liquid tar. Then to still further imagine this unimaginable jelly to be so delicately elastic that a blow to it anywhere will shake it, not exactly in jelly fashion, but in "waves," one will have as good an idea of "ether" as most people have.

It is this "shaking" of the ether when it is disturbed that is here of chief concern, and of this there is no doubt nor question. A shock to it in any spot starts waves in it, something like the waves made in a smooth sheet of water by the dropping of a stone. These ether waves can be started in various ways; but, once started, they travel in a straight line in all directions from the point of shock, and always at the same speed—186,000 miles to the second. It is commonly said of them that matter is transparent to them—that is, that they will pass through all substances as light passes through glass. This is not strictly true. The electrically started waves now being considered may be deflected, and perhaps actually stopped, by some forms and conditions of matter; but such things as house walls, trees, water and hills do not seem to affect them at all. If the reader will remember the ether as an absolutely continuous jelly, he will understand why this is so. Extending as it does through all substances as well as through all space, a wall in the way of a wave will no more prevent its progress than the canvas wall of a tent will keep out noise. The ether wave passes through a wall as easily as a sound wave of air comes through the canvas.

These waves are really waves—actually, as it is

believed, undulatory motion in the ether. Since Henry's discovery, and especially since the investigations made by Prof. Hertz of the University of Bonn (in whose honor they are usually called Hertzian waves), it has been known that they can be started in the ether, to put it rather crudely, by the passage of an electric spark under certain conditions. The jumping of an electric spark gives, as it were, a blow to the ether, which starts it trembling. Nobody knows why this is so, as yet, any more than anybody knows why your watch or knife will fall to the ground if you let go of them. To say "laws of gravitation" does not explain anything—it only names it. So, although scientists have theories of "stresses in the ether," caused by electrical charges, to account for the waves they can not tell yet why the stresses, any more than they can tell why the attraction of bodies.

Leaving the "why of it" to explain when it can be so explained, let us consider the simple fact. Electrical disturbances, like the passage of the spark, do give a blow to the ether, and that blow makes waves, and those waves will travel at the exact speed of light, nobody knows how far. Space telegraphy is performed simply by making these blows upon the ether and reading at the distant point the waves that come from them.

It has been found to be easy to give the blows by means of electric sparks; but how shall one read the invisible waves? An Italian—Calzecchi—supplied this answer. He discovered the principle of what has been named the "coherer," and a strange and utterly unexplained principle it is. The "coherer," simply described, is a little glass tube in which are two wires—two "terminals"—that is, the two ends of a broken electric circuit are brought together in this tube; closely, but not in contact. The space between them is filled with very finely divided silver and nickel filings—mere metal dust.

When one pushes a button to ring an electric bell, he simply presses together two pieces of metal, and thereby completes what was a broken electrical circuit. It is one of the characteristics of an electric current that it can not travel at all unless it can travel all the way around and back to where it started. That is a circuit. On the way it will pass through a bell or a lamp or a telephone or wherever it is given a path and do whatever work it has the strength to do. But if there is the slightest break in the metal path over which it travels, it stops altogether. A push button is such a break until pressed. So is a telegraph key. When pressed, the ends of the break are brought together and the bell rings or the telegraph sounder raps its message.

What has this to do with the coherer we were talking about? This, and it is the principle that has made wireless telegraphy possible: The two wires in the tube are the two ends of a broken circuit from an ordinary battery through an ordinary telegraph instrument. If they were brought together, the instrument would click out a dot or a dash, according to the length of time they were held together. But they are not together; they are separated by a very small space, and that space is filled with this fine metal dust, which is too hard a road for the current to travel with effect. But—and here is the key to the whole thing—whenever one of these Hertzian waves encounters the coherer in its flight, it appears to weld the dust together into a homogeneous metal conductor for the instant that it is passing. During that instant the current can pass with ease, and it is the same as if the two terminals were brought together. The current crosses from one wire to the other, the circuit is complete and the telegraph instrument sounds. When the wave has passed, the dust, at a tap on the tube, resumes its normal condition. It is just as if the coherer were a telegraph key and the ether wave the invisible finger that pressed it.

Marconi took all these principles, improved on their practical workings and added a discovery of his own. The combination is the practical Marconi system of to-day. Marconi found that the coherer would work better if it were exhausted of air. He also made the important discovery that the higher in the air he could make the blow to the ether, the farther its waves would travel with force. Nobody understands why this is so either, but it is a fact.

The Marconi sending device consists of a battery and an induction coil to make sparks with, fitted with a telegraph key to control their making. When this key is pressed, sparks fly. From one of the points between which the sparks pass, a wire runs up to a metal ball on the top of a mast. The pressing of the key in the room below makes a long or short succession of sparks from the induction coil. These result in a long or short succession of ether waves, which travel in all directions from the metal ball. In their progress they pass through the coherer at the receiving station perhaps fifty miles away, and occasion, according to their length, the record of a dot or a dash in the telegraph instrument.

The difficulty in the way of an extensive use of the present system may be understood when it is remembered that the ether waves travel with equal ease in all directions. Every coherer within the working radius of the sending station will respond to all waves: and if a number of messages were being sent at once from different stations, the confusion can be imagined. But Marconi is at work on a method of concentrating, or at least directing, the waves by means of a metal reflector, precisely as a light ray is directed by a mirror.

The speed of the sending is about the same as on an ordinary land line—fifteen to eighteen words a minute. The distance to which messages can successfully be sent is as yet under 150 miles, but the possibilities of the principles involved have no limits.

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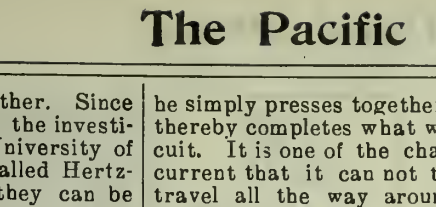
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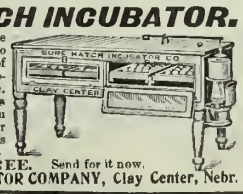
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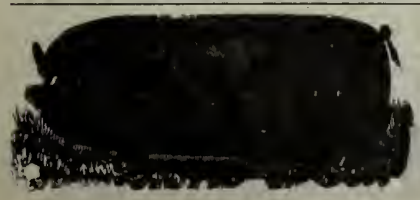
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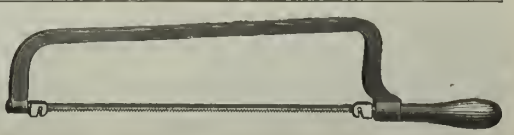
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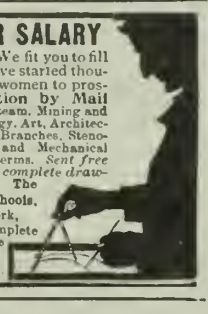
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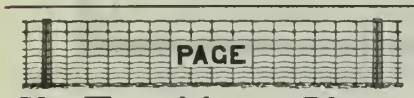
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San Jose Grange Celebration.

To THE EDITOR:—The regular weekly meeting of the San Jose Grange, held at Hale's hall on November 25th, was the occasion of a gala day among the grangers. During the morning session a number of candidates were instructed in the mysteries of the different degrees, after which a short time was consumed by the members and visitors in speaking for the good of the order. After partaking of a bounteous "harvest feast," which had been prepared, the Grange once more assembled within the meeting hall and listened to remarks by Bros. Lewis, Childs, Cornell and others, and also an entertaining programme prepared by the Grange. San Jose is one of the liveliest and most practical subordinate Granges in the State, their meetings being always well attended, and all questions bearing upon the agricultural and horticultural industry given due consideration. It is not surprising that this Grange, situated as it is in the midst of one of the richest and most fertile districts in California, should be progressive. Through the kindness of Bro. A. R. Woodhams, at whose model country residence the writer was most hospitably entertained, an opportunity was afforded to see much of that portion of the valley surrounding San Jose and Santa Clara.

In all directions of this fertile valley could be seen highly cultivated orchards, principally prunes, stretching away to the very foot of the mountains; noticeable also were the large number of artesian wells used for irrigating purposes. From the appearance of this lovely valley, with its rich soil, well kept orchards and vineyards, and numerous handsome residences, the observer forms the conclusion that prosperity abounds. It is also interesting to note that a large majority of the farming population around San Jose are associated in some way, either in the Grange or Farmers' Club, and the success of the Santa Clara Fruit Union and Exchange proves the value of co-operation. It would be well for farmers in various parts of the State to note the fact that where co-operation is generally practiced it is there prosperity reigns.

San Francisco. J. D. CORNELL.

A LATER MEETING.

At the meeting of December 2d the following officers were elected: Worthy Master, Daniel Coates; Overseer, J. B. Glendenning; Secretary, Miss Laurola S. Woodhams; Treasurer, Cyrus Jones; Steward, C. D. Meder; Gentleman Assistant Steward, C. W. Cooper; Lady Assistant Steward, Mrs. A. Lester; Chaplain, Mrs. Alfred Hill; Gate Keeper, W. H. Reed; Pomona, Miss Maud Bennett; Flora, Miss Mabel Bennett; Ceres, Mrs. Charles D. Meder; Trustee, S. P. Saunders; Organist, Miss Ada Ross.

It is expected that Worthy Master G. B. Worthen and Mrs. Worthen will return from the session of the National Grange at Springfield, Ohio, this week, and in anticipation of this event it was arranged to give them a reception Saturday, December 9th, and the following committee was appointed to arrange for the same: Ladies, Glendenning, Ella Sanders, Durkee, Leigh and Wingate; Messrs. Langdon, McCracken and Maynard. Lunch will be served. A short programme of toasts and responses has also been prepared.

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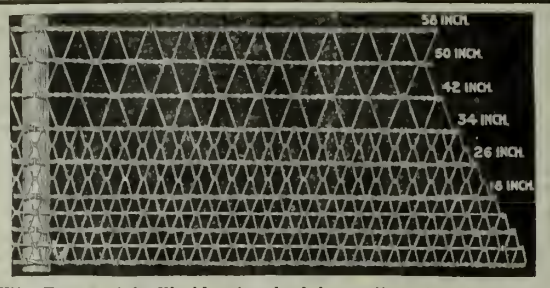
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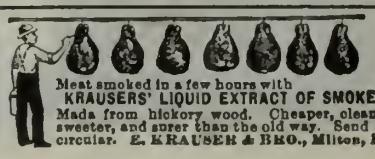
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Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s Scientific Press U. S. and Foreign Patent Agency, the following are worthy of special mention:

Lock.—O. H. Burden and S. Lovatt, Pilot Bay, Canada. No. 637,497. Dated Nov. 21, 1899. This invention relates to improvements in locks which are applicable to doors, trunks and to any parts which it is desirable to lock and make secure. It comprises a spring-pressed slidable bolt, a fixed casing within which it is movable, a hollow cylindrical knob shank extending transversly to the bolt and turnable within a fixed exterior cylinder or casing having circumferential slots made in it so as to expose the surface of the cylindrical knob shank. The bolt has elastic arms extending rearwardly upon each side of and engaging the knob shank above and below through the slots in its casing, so that when the knob is turned in either direction it will retract the bolt. A cylinder is located interior to the knob shank and has a slot made longitudinally from end to end with inwardly projecting lugs or pins. A key has corresponding grooves or channels adapted to be introduced into the slots, and a tumbler consisting of jointed sections is pivoted within the slot in the interior cylinder and has a lug projecting outwardly, and a spring by which it is normally forced in that direction. Slots are made through the knob shank and the exterior fixed cylinder, with which slots the tumbler engage when they are coincident, and the outer ends of the tumbler are so formed as to be engaged by the key when it is introduced so that the tumbler is moved about its pivots and retracted to allow the knobs to be turned and the bolt to be withdrawn.

Lumber Drier.—G. X. Wendling and O. W. Crawford, San Francisco, Cal. No. 637,307. Dated Nov. 21, 1899. The object of this invention is to provide a means for stacking lumber so that heat passages or flues are formed within the body of lumber thus stacked and heat may be passed directly therethrough. In conjunction with this is a truck having a swinging framework adapted to receive and hold the lumber, the framework being so journaled to the truck that it may be turned into one position for the purpose of loading, and afterwards turned to the position which the lumber is to occupy while being dried. The kiln is so constructed that after the frame is loaded and the stack of lumber completed upon it the stack is locked in place upon the frame with flues or passages formed by the piling of the lumber. The car or truck is then run into the kiln and, fitting between the sides, the heat from the heat pipes or other source of heat passes up between these sides and is by them directed through the flues or passages which are formed in the lumber, so that every part of the lumber is exposed to the direct current of the heat. Suitable valves or gates are provided for the escape of the heat from the drying chamber, and these gates are so arranged that by opening certain ones the direction of the heating current will be changed and caused to pass through any part of the lumber stack.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING NOVEMBER 21, 1899.

637,493.—Temporary Binder A. S. Abbott, Los Angeles, Cal.
637,223.—Feed Water Heater—C. F. Bainter, Los Angeles, Cal.
637,224.—Feed Water Heater—C. F. Bainter, Los Angeles, Cal
637,546.—Acetylene Gas Apparatus—G. S. Bennett, Portland, Ogn.
637,497.—Lock—Burden & Lovatt, Pilot Bay, B. C.
637,718.—Oiling Roads—L. B. DeCamp, Alhambra, Cal.
637,502.—Window—G. O. Dean, S. F.
637,242.—Watering Trough—G. W. Ehrman, Maltly, Wash.
637,507.—Water Pipe Connection—H. H. Gorter, S. F
637,338.—Weighing Scale—E. Hanak, S F.
637,612.—Seed Dropper—G. B. Hopper, Santa Maria, Cal.
637,260.—Range—J. E. Hunt, Portland, Ogn.
637,205.—Shade Roller—J. H. Kaufman, Marysville, Cal.
637,514.—Powder Container Top—I. G. Leek, S. F.
637,738.—Handling Barrels—J. E. Ludwig, S. F.
637,471.—Mortar for Stamp Batteries—W. A. Merralls, S. F.
637,472.—Mortar for Stamp Batteries—W. A. Merralls, S. F.
637,662.—Culinary Steamer—J. G. & M. S. Phenix, Hoodsport, Wash.
637,417.—Pump—V. J. A. Rey, S. F.
637,303.—Charcoil Point—E. R. Tait, Oakland, Cal.
637,538.—Telephone Mouthpiece—G. W. Van Alstine, Los Angeles, Cal.
637,686.—Filter—W. Weir, Colfax, Cal.
637,307.—Lumber Drier—Wendling & Crawford, S. F.
637,308.—Lumber Drier—Wendling & Crawford, S. F.
31,854.—Design—L. Hudgin, Lochiel, Ariz.
31,881.—Design—J B. Kelly, Portland, Ogn.

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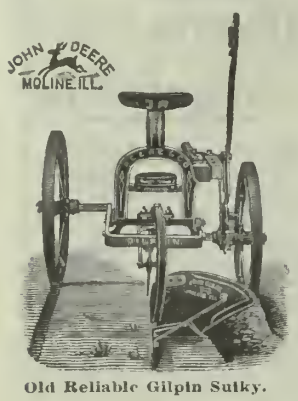
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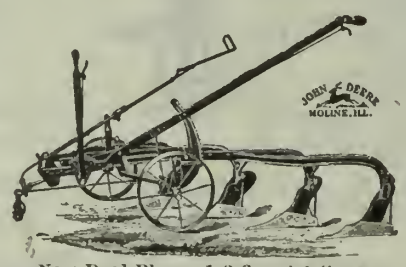
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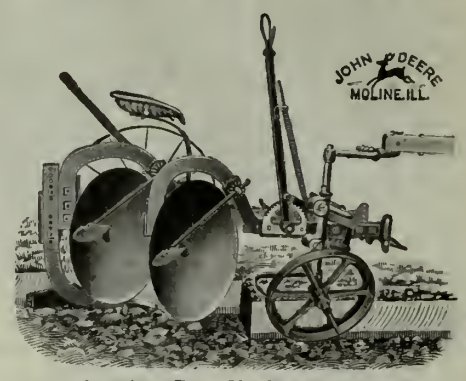
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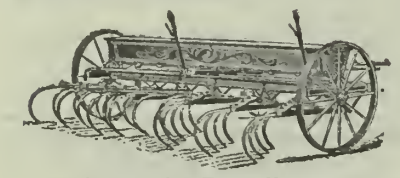

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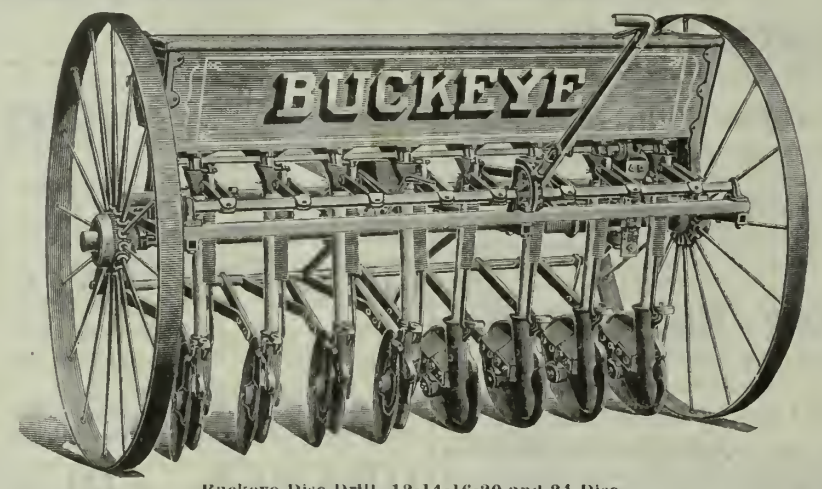


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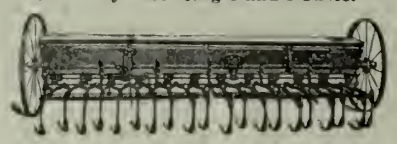


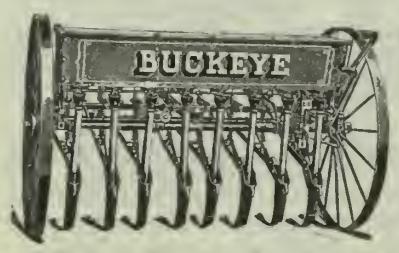
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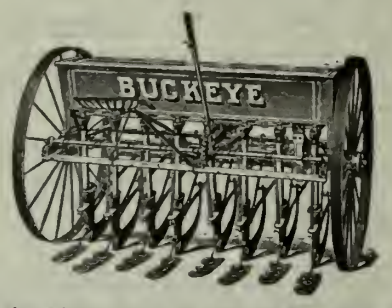


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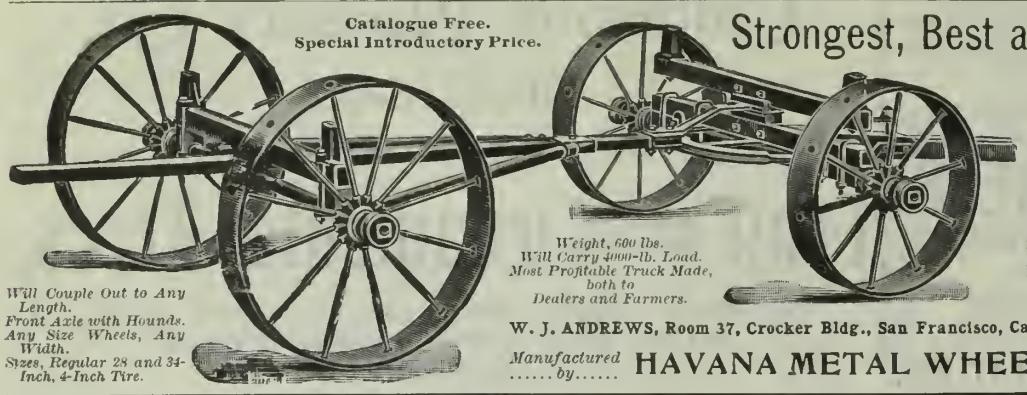

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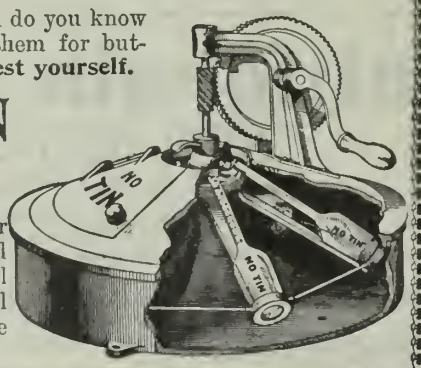
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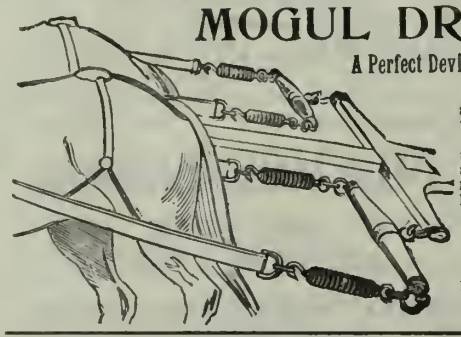
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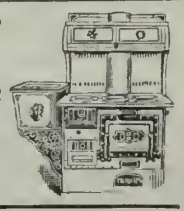

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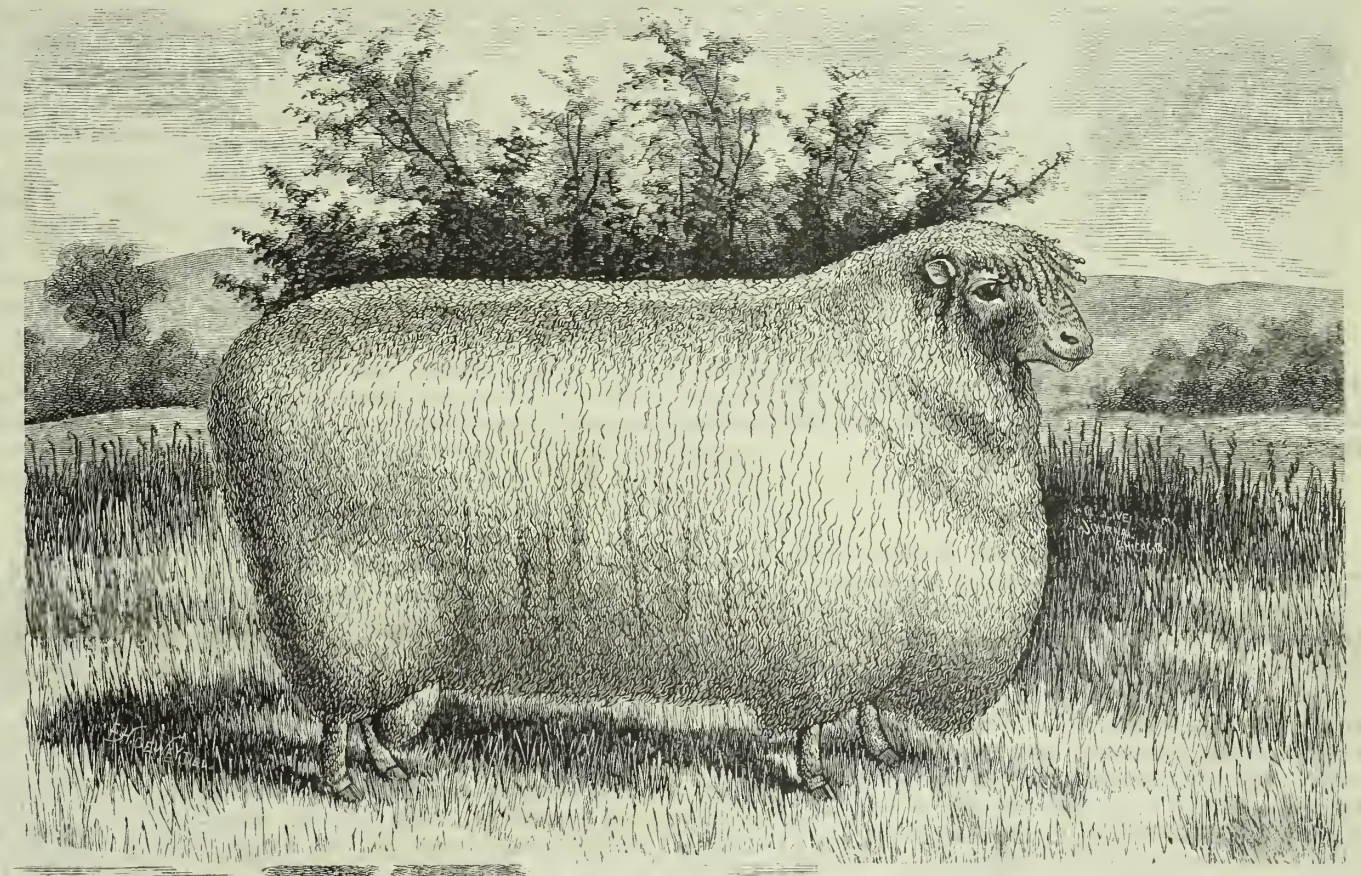
AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 25. SAN FRANCISCO, SATURDAY, DECEMBER 16, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

Suggestions for Small Flocks.

Speaking of sheep, as we felt impelled to do in the last issue of the PACIFIC RURAL PRESS, has suggested another consideration, viz: the importance of sheep as a factor in mixed farming either on a large or small scale. Most that we hear about sheep in the farther West is along range lines; as the West becomes settled and enclosed, as California largely is, we should hear more about sheep farming with improved pastures and the production of ample food for wintering or summering, according as the changing characters of the seasons make pasturage scant at either time of the year. The improved pasturage in many parts of the State would be alfalfa where the soil and moisture supply suit, or sorghum or Australian salt bush on alkali or dry land which it may be desirable to make use of. Nearer the coast, on lands that are not too dry, seeding with several grasses will largely increase the amount of feed and it will be reasonably permanent if the land is not overstocked nor fed too long in the season. As supplementary to pasturage there is a good resource in alfalfa hay and a host of other hays which are available in different parts of the State, but wherever corn can be grown a good supply of silage should be secured as supplementary to whatever dry feed is used. The silo can be used very satisfactorily for sheep feeding.

But we intend chiefly to call attention to the desirability of a few choice mutton sheep on almost all farms. There may be small fruit farms with the whole area set with trees or vines, but even on fruit farms there is often space enough to keep a few sheep, to be fed mainly upon the waste vegetation, the waste fruit, etc., and yield a home supply of good meat. There are very few places where such an annex to the fruit farm would not pay well for the trouble. Where the fruit lands are adjacent to hillsides not suited to planting, the sheep will make use of land too steep or too small to warrant keeping other kinds of live stock. For these purposes a few of the larger mutton breeds are best. They are very quiet and docile; they reach maturity very rapidly, and if one has facilities to run a larger flock for early lambs there is often ample reward for the effort in that line. What such sheep look like can be seen from the pictures on this page, which are typical specimens of two prominent breeds.



A SPLENDID COTSWOLD.



A GROUP OF SOUTHDOWNS.

Many experiments have recently been made at the various stations in feeding lambs, and the two breeds shown herewith have made honorable records. At several experiments in Iowa the Cotswolds led in total weight and in the cheapness with which the weight was made. The Southdowns were also found very satisfactory. There are of course several other mutton breeds which are worthy of attention. All these sheep count for very little in California at the present time, but we are sure that their time is coming as we advance in mixed husbandry, which is the rational farming policy when the mixture suits the local soil, climate and markets.

THE British Columbians do not propose to let any national feeling stand in their way in preventing the entrance of the codlin moth. Last year the inspectors destroyed shipments of apples from California. Recently two whole carloads of Canadian apples from Ontario were dumped in the crematory, being affected by codlin moth, and $2000 went up in smoke. Evidently wormy apples are not to go in the future.

A FINE sample of ripe Sevillano olives has been shown us by J. J. Chappelle from his orchard in San Mateo county. They are of immense size and dead ripe at this date. The trees are young and just beginning bearing, and if they keep up the gait they will be very satisfactory.

OREGON has sent over 700,000 bushels of wheat since July 1, 1899, to Algoa bay, South Africa.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, December 16, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

Weather conditions continue as before noted. Temperatures have fallen a little and reached about the normal. This is as a rule desirable, for fruit trees have shown quite a restless disposition during the moist warmth, and too early blooming is the danger. In Berkeley early cherries and Japanese plums have displayed partial bloom, and we presume such manifestations have been quite widely noted. The supply of fresh, tender vegetables from Cahuenga valley, near Los Angeles, is unusually ample and varied this year. All these things are Nature's way of measuring temperature. Frosts everywhere have been light so far, as compared with each locality's normal, and a few weeks of cool weather to repress over-exuberance on the part of plant and tree will be generally acceptable.

Spot wheat shades off again this week, in sympathy with the dimensions of the visible supply as shown by statistics which are given on our market pages. There seems to be more wheat in sight than was expected from such a half-dry year as this. Options on wheat fell also, but seem to be rallying now. Eastern markets look a little better. Barley is still going abroad and high grades hold their value well. Poor barley is lower and weak. Oats are quite firm for choice, but damaged oats are in excessive supply. Corn is still scarce. Bran is lower and weak. Hay has the same dragging habit, which is not surprising, considering how much green feed there is now out of doors. Meats are unchanged, except that medium and small hogs are higher—too high for packing. More hogs are now coming from Oregon. Butter is barely steady, but receipts of the best grades are small and are holding up well. Eggs are still lower; there are not too many choice fresh, but there are too many storage eggs to pull them down. Eastern poultry has deluged the markets, being distributed as far south as Los Angeles. We had seven cars in two days. Only broilers and choice turkeys are selling well. Choice beans are steady. Yellow mustard seed is scarce and high. The best onions and potatoes are firm and unchanged. Some Oregon onions are outselling Californian. Dried fruit is dull; only choice pears and peaches are sought for and speculators want them for future sale. Wool is going away at a rattling rate. One steamer took 200,000 pounds to connect with the Canadian Pacific. Over 3,000,000 pounds have gone that way to the East this fall.

The Fruit Growers' Convention.

Editorial Correspondence.

San Jose, Dec. 13.

The opening of the Fruit Growers' Convention indicates that the anticipations of the Pacific Rural Press as to its representative character and commanding interest are to be realized. The throngs crossing the beautiful St. James Park or moving along the well-kept streets which form its boundaries are leading fruit growers from all parts of the State. They have an air of confidence and capability; they are caparisoned in the garb of prosperity. Their demeanor is that of cordiality and content. They are conscious of having developed the greatest single industry of the State, and they are more hopeful now than ever that they can arrange the environment of that industry so that its way shall be clear for far greater achievements and for a fairer distribution of the profits thereof. This work will evidently be the great business of the convention.

As we meet these representatives of the fruit interest we cannot but remark the different conditions and the different problems which confront them as contrasted with those which prevailed when we met the same people in San Jose about twenty years ago. It was then but the beginning of California fruit growing as a great commercial interest. The ruling questions were how to grow fruit and especially how to protect it from the clouds of insects which then bid fair to destroy the trees. Then it was that the late Matthew Cooke began to be recognized as the great commander in the warfare against insect pests. We recall well a long afternoon during which he stood before the platform and endured catechism and dispensed exhortation until it really did seem as though the whole fruit interest was to perish before the myriads of bugs which were reported. It was getting dark in the hall and the assembly was much depressed. Mr. Cooke told for the third or fourth time his prescription of bark scraping and spraying with whale oil soap and sulphur for the codlin moth, and the audience was on the point of desperately resolving that every grower should be required by law to do this work, when a forlorn man arose and plaintively asked how he could apply that remedy to his potatoes, which were full of codlin moth worms. The audience rose with a suppressed groan; it seemed utterly hopeless to save the trees if the worm could live in the potatoes! It was not then generally known that the potato worm was the offspring of another moth.

The contrast between those days and these is very striking. An advance in insecticidal methods and in measures of prevention has been attained which has demonstrated the ability of man to successfully combat the insect world. The old fear has passed away. There has also been full knowledge acquired as to successful methods of growing of all fruits which our various climates favor. No question can be asked but what some one can answer from experience. The old anxiety about how to do cultural things has disappeared. The fruit growers have passed on to other matters. The questions of to-day are mainly concerning the great commercial considerations of cheap and uniformly excellent products and the fairest ways of transporting and marketing them. Twenty years ago the cultural problems predominated; to-day business problems have the right of way, and so much is being accomplished in these affairs that the assembly has an aspect of confidence and courage which has never been seen before. Surely the aspect is warranted; the representatives of an industry which is creating a value of 30 to 40 millions a year are entitled to hold up their heads and press forward.

The arrangements for the convention have been very skillfully made by the San Jose committee. Comfort and convenience are everywhere manifested, and San Jose will surely add to her merited fame by what this State-wide concourse will learn by observation and by the hospitality which it is enjoying.

The meetings opened in Unitarian Hall with an appropriate welcoming address by Judge B. G. Hurlburt of San Jose, in which, after a due amount of cordiality, he alluded to the problems of the hour and discerned their settlement by the fruit growers' self-help through effective co-operation.

President Ellwood Cooper of Santa Barbara, the chief executive of the State Board of Horticulture, delivered one of his characteristic addresses, carefully prepared and abreast of the time in its recommendations. He reminded his hearers that nearly a quarter of a century of conventions had elapsed, the present being the twenty-fourth. Among other things, he said:

Many changes have taken place and much discouragement to fruit growers, by reason of the financial disturbance and insufficient rainfall during the past three years; but, notwithstanding the drawbacks, great advance has been made toward solving the most important question that concerns the fruit problems. Radical changes must of necessity be slow, because the great body of people in any vocation are critical and cautious of new methods or any deviation from old-time methods. New conditions require new modes to meet them. To be successful, we must adapt our methods to the necessity that confronts us.

It is the universal opinion among fruit growers that the best success can only be attained by co-operation, unity and concentration, and yet it has been stated in public discussion by intelligent fruit growers that they were convinced that concentration was impossible. Why? There can only be one conclusion and that is a want of confidence either in our ability to sell our own products, or a distrust of fair dealing by those trusted with the management. Yet, while we distrust each other, we trust people whom we have never seen and who manage our products and grow rich by our industry and labor.

Mr. Cooper alluded also to the failures and the successes already secured by co-operative efforts, and commended them to the careful study of the convention. He sketched the present insect problems, pure food legislation, forest conservation, etc.

The convention showed its disposition with reference to the Isthmus canal by adopting a resolution calling upon Congress to proceed at once to enable the Government to build the canal. The discussion showed that the fruit growers want this waterway forthwith.

The following committees have the work of the convention in charge:

On Resolutions—W. H. Aiken, Wrights; T. A. Rice, El Rio; Alfred Barstow, San Jose; Jno. Markeley, Sonoma; Jno. Rock, Niles.

Committee on Legislation—Prof. C. W. Childs, San Jose; G. W. Hutchings, Marysville; H. P. Stabler, Yuba City; Judge J. R. Lewis, San Jose; B. N. Rowley, San Francisco.

On Marketing—R. D. Stephens, Sacramento; A. D. Cutts, Live Oak; Ed. Berwick, Pacific Grove; A. Block, Santa Clara; Prof. D. T. Fowler, Berkeley; A. H. Naftzger, Los Angeles; M. Theo. Kearney, Fresno; F. M. Righter, Campbell; Frank N. Buck, Vacaville.

Standing Committee on Transportation—R. D. Stephens, Sacramento; Alexander Gordon, Fresno; A. Block, Santa Clara; W. N. Gladden, Healdsburg; N. W. Blanchard, Santa Paula.

R. D. Stephens of Sacramento, chairman of the committee appointed at a convention held in Sacramento last May to organize growers for shipping their own fruits to the East, reported the efforts of the committee and the result as follows:

The committe did all in its power to bring about an organization of the fruit growers of the State, as outlined by the convention, but has failed so far to accomplish the desired result. It found that it was antagonized by men representing millions of dollars, whose interests are diametrically opposed to those of the grower.

The failure to perfect an organization of the growers may be attributed to the following: Apathy, jealousy, intimidation, dissension, crop mortgages, concessions, selfishness.

H. Weinstock reported the year's operations of the Shippers' and Growers' Association, of which he is president, with the statistics of the total shipments of deciduous fruits. It may be found on another page of this issue.

This account only covers the opening of the convention. There are many papers and transactions which must be deferred for future issues of the Pacific Rural Press.

The meetings of the horticultural commissioners, as an annex of the convention, are well attended and very active in business and discussion. The question of Congressional enactment to provide for inspection of imported trees and plants is still pending. It seems to be clearly the California sentiment that inspection by foreign officials can not be regarded as enough for this State, and that there must be local inspection before imported plants can be considered safe to put into our soil.

QUERIES AND REPLIES.

Medicinal Plants.

To the Editor:—Are there not some medicinal plants which can be profitably grown in California in large quantities for the trade, and what are they?—Reader, Oakland.

We do not know who could tell exactly what medicinal plants could be grown with profit here. More people could tell exactly what cannot be grown with such results, for there have been many disappointments in this line. There are probably some, especially some of the seeds like coriander, annis, etc.; also, perhaps, some of the medicinal roots, but which one would pay and how much the market would take at profitable rates could only be ascertained by careful inquiry, and there is often disappointment after taking that course. A large number of aromatic herbs are used for the drug trade, but the consumption on the Pacific coast is small, and at the East there are growers who have succeeded in getting their products recognized, and it is difficult to compete with them. An instance of this could be found in the peppermint for the manufacture of oil. Several Pacific coast failures have occurred, though the the plant grows well enough. The Eastern production of this oil increased to such an extent that during the last few years it has been no longer profitable, and the acreage has recently been rapidly reduced. One has to proceed with great care in an investment of either time or money in such lines of production. It is necessary to determine whether the proposed plant will grow well here, then whether its handling requires much labor or not, then whether the consumption will warrant increased production, and whether dealers are disposed to take up new sources of supply—which they are usually averse to doing.

Winter and Summer Feed on a Small Place.

To the Editor:—I have about seven acres to plant. I have some alfalfa. Now, what would be best to plant for fodder for a cow and horses? Horses are too soft for hard work when fed exclusively on alfalfa. Are there any other forage plants that could be cut and dried and fed to horses or cows and that would yield two or three crops without irrigation? What I wish to learn is how to raise forage for my cow and horses and not have to buy any or but little grain or hay for my stock. I have a windmill and 6000-gallon tank, but am not yet situated to irrigate very much of my land, therefore have asked about plants adapted to this semi-arid climate.—New Comer, Sacramento valley.

The best plants to be used for winter feed are rye, to be sown at once and then fed green during the winter, or else oats and field peas sown together and treated in the same way. It is more economical to have the crop mown and fed to the stock in the corral than to allow them to pasture upon it, although the animals can be staked out and moved along as the pasturage is cropped by them. This will give you winter feed. The land should then be plowed before the moisture all goes out of the ground in the spring and sown to sorghum or Kaffir corn when danger of frost is over. These can be cut and fed green and will make a second growth and a third growth from the stubble, providing moisture enough remains in the ground during the summer. This is the utmost that can be done by rainfall in regions where the rainfall is quite large and the soil retentive; even to do this on some soils it is necessary to use irrigation to secure the growth of the summer crop. If your alfalfa will do for the green feed of the animals during the summer, you can allow the Kaffir corn to bear a seed crop, and gather this to feed in place of grain. If you do not feed all the winter crops green the plants can be cut and cured for hay; also the later growth of the sorghum can be treated in the same way.

Planting Jerusalem Artichokes.

To the Editor:—Please inform me through your query column what is the proper time for planting Jerusalem artichokes? Are the plants sensitive to frost? Do they need much moisture?—J. S. Griswold, Ventura.

Jerusalem artichokes are killed to the ground by the frost, but the tubers not injured. Dig up the tubers whenever the absence of top growth shows them to be dormant and plant out again very soon for new growth. The tubers do not keep well out of the ground. If it is desirable to hold them some time they should be stored in moist sand. The plants enjoy ample moisture, but they will endure considerable drouth. Their growth will be proportional to the moisture supply.

Planting in Place—Tree Wounds.

To the Editor:—Can you tell me with what success almond producers have met in raising trees from nuts planted in the orchard where it is desired to have the tree, and thus save transplanting? If this can be done successfully the coming season, it would certainly be desirable on account of the prospective high price of nursery stock.

In case a tree is barked, or skinned, by a plow or cultivator in the orchard, is there not some simple preparation that could be applied to heal the wound instead of wrapping and painting the tree?—C. D. Hoover, Fairmont, Cal.

You can grow the trees in place if you are willing to take the extra trouble of cultivating the whole ground and protecting the seedlings. It is usually much cheaper to care for them in a nursery. In spite of all you can do in field culture, there will be many gaps probably. Then the buds are also more liable to injury in the field. It can be done, but we never hankered after the job. We would rather grow the seedlings in the nursery and bud next summer and plant out in dormant bud than to handle them in the field.

The best way to handle a fresh wound is to wrap with some moisture-holding application, like clay and manure stirred together, because then bark growing proceeds from granulations upon the uncovered surface and the wound covers sooner. If the wound has dried hard, we know nothing to do except to paint the wood to keep it from checking and allow the bark to grow over from the sides. A liquid mastic or grafting wax is useful for this purpose also.

The Sparks Apricot in Colorado.

To the Editor:—I have read the query by a subscriber at Winters as to the Sparks Mammoth apricot. I have trees planted four years ago last spring. They have made a beautiful growth, very symmetrical—somewhat like the Newcastle. With us they have proved very shy, but may be better in Winters and Vaca valley, where I used to reside. The winters seem too severe in this county on fruit buds, and perhaps the Sparks gets killed during winter, while Newcastle, Royal, Smith's Triumph and Blenheim are doing all right. The Sparks is the finest of all apricots, in my judgment, in regard to appearance and quality, not excepting that famous old variety, the Moorpark. It is as large or larger than the Moorpark, but more pale yellow and slightly compressed. It has a flavor which is unexcelled for richness and delicacy. It also ripens very early, and when fully ripe is still firm.—Fred Baisch, Palisade, Colorado.

We are glad to have this response and wish to have many more about this fruit. The complaint of shyness in bearing has also been made by some California growers. Is it the common experience?

Permits to Kill Birds.

To the Editor:—Is it necessary to get a permit to collect birds and eggs for "educational or scientific" purposes, and if so, from whom?—An Inquirer, Saratoga.

We are not aware of any authorization or permit of the kind described. We suppose the bird killer would have to establish his purpose or motive to the satisfaction of the court before whom he might be arraigned under the existing law.

Berry Scale.

To the Editor:—Is there any way to kill scale on berry plants that I want to set out a new patch with, so as not to injure the plants?—Subscriber, Bakersfield.

The scale which usually infests blackberry and raspberry plants is *Diaspis rosæ*—a roundish, white scale. Clear out and burn all the canes which have finished fruiting, and spray the remainder with kerosene emulsion.

Spelt.

To the Editor:—I send a small sample of grain which is called "spelt," which is being found valuable in Dakota. It may be new in California.—R. A. B.

Spelt is a sort of wheat. It is a very hardy grain which succeeds where common wheat is apt to be killed out by winter frosts. The State University has had collections of spelt varieties for a number of years, but naturally so hardy a grain is scarcely required in most California localities, consequently no one has taken any particular interest in it. It is possible, however, that in some parts of the State it may be quite valuable. It can hardly be said to be new. It may be new in Dakota, but the University has had collections of it growing at Berkeley for the last twenty years, and it has been grown in the north of Europe from time immemorial.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Dec. 11, 1899.

Alexander McAdie, Forecast Official and Station Director.

The temperature for the week has averaged nearly normal in all portions of the State. Frosts have occurred frequently in nearly all sections, but have been too light to cause damage except to tomato vines. Light rains have fallen in the central and northern portions of the State, and at Eureka the precipitation amounted to 3 inches. Southern California would be benefited by a heavy rain; the precipitation for the season has been only 2.49 inches at Los Angeles and 1.26 at San Diego—in both cases considerably in excess of last season's rainfall, but much less than normal.

In the northern portion farm work is progressing slowly, owing to continued rains, but in the San Joaquin valley and southern California plowing and seeding are progressing rapidly, and an unusually large acreage of grain is being sown. In all sections early sown grain continues thrifty, and in some localities the later sown is up and looking bright. Green feed is more abundant than has been known for several years, and stock is in excellent condition.

Orange shipments continue, and in some sections the season is nearly closed. Several carloads of Duarte oranges were shipped during the week. Pruning continues, though somewhat retarded by rain.

Sacramento Valley.

Oranges are ripening slowly in Sacramento county; in Tehama county the crop is nearly all gathered; in Butte county it is reported that the yield will be less than last season. Cooler weather has been beneficial to deciduous fruit trees in retarding the growth of buds. Farm work is backward, owing to the continued rains, but plowing and seeding are in progress in some sections. Early sown grain is up and doing well. Feed is plentiful, and stock is in fine condition. Killing frost occurred on the 6th at Rosewood, Tehama county.

Coast and Bay Sections.

In some sections conditions have been favorable for plowing and seeding, while in others the soil is still too wet for working. Early sown grain and green feed are making rapid growth. Farmers seem confident of a large yield of grain for the coming season. Pasturage was never so abundant at this season. Sugar beets are nearly all gathered; the yield was nearly average. Frosts were frequent during the week, but caused no damage. Pruning is progressing slowly, owing to continued rains.

San Joaquin Valley.

Except in portions of the northern end of the valley, conditions have been favorable for farm work, and plowing and seeding have progressed satisfactorily. A few days of dry weather, with northerly winds, would be beneficial to most sections, however. Early sown grain continues thrifty. Reports show that in nearly all sections the grain acreage will be much larger than last season's, and the farmers are expecting an unusually prosperous year. Green feed is abundant in all parts of the valley. Frosts occurred during the week, but were too light to cause damage. All deciduous fruits are under cover In some seotions raisins are still being sent to the driers. Orange shipments continue, but the crop is nearly all gathered.

Southern California.

Warm days and cold nights prevailed during the week, with frequent frosts, too light to cause damage except to tomato vines in some sections. Heavy rains would be beneficial, especially in the extreme south. Early sown grain is making very satisfactory growth, and the late sown is coming up and looking well. Green feed continues plentiful. Oranges are maturing, and several carloads were shipped from Duarte during the week.

Los Angeles Summary.—Occasional light showers fell during the week, otherwise generally fair, and the coolest weather that has thus far occurred, prevailed with considerable desert wind, which became a heavy norther in localities. Frost occurred several mornings, but no damage is reported except to vegetables in low lands. The soil and vegetation were adversely affected by the drying winds. While the ground, in some sections, continues in good working condition, it is generally too dry to plow. Rain is needed to soften the soil and to keep grain and feed growing. Orchardists in some places are still irrigating orange groves; some grain fields are also being irrigated. It is probable that pumping plants will start up in the southern section, should there be no rain in a short time. Orange picking and shipping continue, but not as actively as in the past few weeks.

Eureka Summary.—Warm rains continue. Grass is growing rapidly, and is generally sufficient to carry stock through the winter. Little farm work is being done.

The following data for the week ending 5 A. M. Wednesday, December 13, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week.....	Maximum Temperature for the Week.....
Eureka	1.98	23.92	8.21	11.68	36	60
Red Bluff	.36	7.68	2.12	7.16	36	62
Sacramento	.62	7.82	1.61	5.02	40	58
San Francisco	.34	8.10	2.38	5.88	44	60
Fresno	.07	3.89	1.49	2.37	34	60
Independence	T	0.90	0.61	1.71	24	58
San Luis Obispo	.02	5 82	0.73	2.61	34	66
Los Angeles	.00	2.49	0.19	4.16	38	74
San Diego	.00	1.25	0 96	1.99	46	74
Yuma	.00	0.58	0 70	1.42	36	68

AGRICULTURAL ENGINEER.

Tile Drainage for Sub-irrigated and Alkali Lands.

By DR. HARE at the Farmers' Institute at Fresno.

Our extravagant system of sub-irrigation is constantly filling the land with a subterranean lake of stagnant water, the surface level of which is rising nearer to the level of the earth every year. In many places it has already risen so close to the surface as to seriously injure the yield of our fruit and threatens the life of the orchard. There are three ways of getting rid of this surplus water—by surface ditches, by evaporation, and by tile drainage.

Surface Drains.—While nearly all surface water—water lying on top of the ground—can be disposed of by surface drains (and what remains in the first few inches of the surface of our lands will evaporate), I think I can convince any reasonable person that either of these processes, which appear to cost nothing, is far more expensive than the farmer can well afford.

The water which falls on the earth and that which flows over the surface of the land is always rich in plant food, carbon dioxide and the soluble nitrates which it has gathered from the atmosphere or from the soil over which it has flowed. By surface drainage the plant food is wasted. By tile drainage this water is carried down through the soil, the plant food is all retained and held by the several feet of earth through which the water has to percolate, the soil is enriched and the impoverished water is passed out through the drain because it is no longer of any value to the soil.

Evaporation.—The process of evaporation is an extravagant one and injures the soil directly in two ways and indirectly in at least one way. By cooling the ground, concentrating the alkali and puddling the soil it is a cooling process, as I will show you by a little experiment. Evaporation of water requires a large amount of heat. It requires four times as much heat to evaporate a volume of water as it does to raise an equal volume from the freezing to the boiling boint. It is because of this cooling by evaporation that we have few frostless belts anywhere. There are places near the equator where frosts have occurred from this cause. While other factors may enter into the causation of frosts, this one of evaporation is a most important and one of which we can take advantage.

While evaporation may not be rapid, or may not occur at all during a frost, yet the increased warmth of the soil which results from drainage (drained lands are said to be from 5° to 10° warmer than undrained) would at times be sufficient to keep off a late frost, and by saving one crop pay for the whole expense of tiling in a single season.

Second—Evaporation of surplus water does further damage to our soil by dissolving the alkali, bringing it to the surface of the soil in solution, and, by evaporating, leaves the alkali as a thin layer on the surface of the land, but strong enough to kill the growing crop. Very little of our cultivated soil contains too much alkali, if the soil and alkali are properly mingled. It is the concentration of alkali at or near the surface by this pernicious process that does the mischief.

In Florida the fruit orchards cannot compare with California in point of productiveness, largely due to the scanty amount of alkali which the Florida soil contains. I am told that in Santa Clara county they are now fertilizing their prune orchards with alkali to increase their productiveness. It is not so much the amount of alkali we have in our soil that is hurting us, but the concentration of it on the surface by the process of evaporation of the surplus water of irrigation that is proving ruinous to so many orchards.

Third—Permitting water to evaporate increases the process of puddling. Where water is permitted to stand on the surface and evaporate the soil is run together, the spaces that should contain air and the capillaries that should contain water are obliterated, and as a result dries hard and breaks up cloddy. Such soil is practically ruined until it has been most thoroughly pulverized and the air spaces and capillaries reopened.

Tile Drainage.—Proper disposition of the surplus or waste water is, then, the first point to be secured by tile drainage. Opening up the capillaries and air spaces in the soil, causing a much larger circulation of air, carrying down a much larger volume of oxygen, thus aiding and quickening the bacteriological and chemical processes concerned in the elaboration of a greater amount of plant food in the deeper portions of the soil, is a condition secured only by tile drainage. In soil that is thus loosened plant roots penetrate to a greater depth, and ramify through a larger feeding ground, so that a man with forty acres and a mortgage may have the resources of an additional forty acres below, to help lift the mortgage on top.

How long can peach trees stand flooding in hot weather without injury? Only a few days, because the stagnant water will strangle and kill the feeding roots. Many of our orchards have their lower roots in water all summer. They stand, if you please, with their feet in a lake of cold, stagnant water, and we wonder why the tops blight and the trees die early. Get the water away from the roots by opening a channel below by means of a tile drain, and the deeper roots will become strong feeding roots, giving to the tree vigor of growth and increase in its yield of fruit, and long life. It takes five years to bring a peach orchard into full bearing, and it only lasts about four or five years till it begins to go down. Give it proper food, proper moisture and care, and its life can be doubled.

Surplus Water.—We have pointed out the fact that tile drainage removes the surplus water. Let me illustrate what I mean by surplus water: We have dry soil, moist soil and wet soil. By opening the pores from below, the water will percolate through drained soil much more rapidly than undrained; the capillaries are kept constantly open and the soil rendered loose and porous. These are the very conditions necessary in order that soil can properly withstand a protracted drouth, for in a dry season the water from below will rise to the roots of the plants as readily by capillary attraction as the water from above will descend to the drain by the influence of gravity. This is a point of most practical value in the proper handling of a heavy soil that suffers from the effects of dry weather. A well drained soil will hold one-quarter its volume of water by its capillaries alone, simply making it moist and not wet. Drained soil will hold more water than sand will.

Alkali Soil.—We have just touched upon a few of the points which can be gained by tile drainage, but we cannot pass this part of the paper, however, without a further reference to the influence of tile drainage upon an alkali soil. As we pointed out, the danger is caused, not so much by the amount of alkali, as by the concentration of it at or near the surface. By having our soil undrained by tile, we can, by flooding the land, dissolve the alkali on the surface, and carry it, by the percolating of the water, into the deepest portion of the soil. This process, or percolation, will redistribute the alkali more evenly, and, where it is excessive in amount, it will continually lessen it by the amount which will constantly be carried off with the surplus water through the drain.

Hardpan.—Further advantages which would result from tile drainage in many sections of our country where the hardpan is within 4, 5 or 6 feet of the surface would accrue from the fact that the surplus water would be put in motion; more air would be brought in contact with the hardpan, the roots of plants would ramify over it in feeding, and the hardpan would not be able to withstand the disintegrating process.

Recapitulation.—To recapitulate: Tile drainage first removes the surplus water; second, opens the capillaries and air spaces, causes a freer circulation of oxygen and increases the chemical evaporation of plant food; third, the soil is rendered more porous and the feeding area of plant roots is increased; fourth, the soil is better able to withstand drouth; fifth, the temperature of the soil is made warmer, thereby lessening the danger of late frosts, hastening the growth after the vegetation does start, shortening the time between the blossoming and setting of fruit, thereby lessening the danger of fruit and grapes dropping; sixth, prevents the concentration of alkali; seventh, hastens the disintegration of hardpan.

How to Drain.—The success and failure of tile drainage depends to such a large degree on the wisdom with which a system of drains is laid out and the careful and exact manner in which the work is done, that I would like to give much more attention to this part of the subject than the limits of this paper will permit. I will therefore have to pass this part of the subject with only a brief reference to a few of the most salient points, with the recommendation that those who intend draining their land with tile first make a large investment of brains in their enterprise. After having convinced ourselves that it will pay us to drain our land with tile, and having decided to put the project into execution, the first and most important step is to make an accurate survey of the land to be drained.

An Outlet.—Having made a survey, we must next determine the most practical method of securing an outlet. Along the rivers and foothills we can find natural outlets, but on account of the even slope of most of the lands in this valley there seems to be but one solution to this problem, and that is to establish a system of pumping stations and discharge the mains into artificial reservoirs placed below the level of the outlet, and pump the drain water into and carry it off through the surface ditches. Where the alkali is very strong, this surplus water would have to be carried off through ditches provided for this purpose. But on nearly all the land the water could be profitably used to irrigate arid sections, and by this means be made a source of income. We would improve our lands, and, with the same expense, would greatly increase our wealth by supplying water to thousands of acres of arid land that is at present practically worthless. Even if there were considerable alkali in this surplus water at first, it would grow less and less each year.

The Main Line.—After indicating an outlet, we should next determine the direction, location and length of the main line, which, when not contra-indicated, should be made to pass through the lowest portions of the land. The number, location and length of lateral drains necessary should be established. The amount of fall to the head of our farthest laterals actually estimated, that we may know our rate of fall per 100 feet. The fall should be evenly distributed throughout the entire length of the ditch when this is possible.

When making a survey, bench stakes should be placed along every ditch at intervals of about 200 feet, properly numbered and registered in the field notes. It is well to place these bench stakes 3 or 4 feet from the line of the ditch, and all on the same side, so as not to interfere with the handling of the dirt. A profile map should be drawn to scale, showing the location and exact depth of the ditch at every stake. While the slope of the land is uniform—as it is throughout this valley—lateral drains should be placed at right angles to the main, unless there are good reasons for placing them otherwise.

Rate of Fall.—Having made an accurate survey of our land, we have the available fall which we can give to our drain, and we must next determine the rate of fall which we can give to our main and laterals. If we can evenly distribute the fall, so much the better. We should secure at least 3 inches of fall to every 100 feet. Where this cannot be secured, a much less rate of fall can be made practical, but there is great danger of our drains filling with sediment; this danger makes it necessary to lay our tile with much more carefulness and accuracy.

Size of Tile.—Having the length of our ditch and the rate of the fall, we are prepared to determine the size of tile required. The amount of our rainfall and the volume of water from sub-irrigation, of course, have to be borne in mind. An average forty acres of land in this valley that needs draining would require 5 inches and 4 feet for the main, and 3 inches for the laterals. The number of laterals required would be determined by the depth at which our tile is laid; and this depends upon the amount of fall which we can secure and the rate of fall which we give our drains. Where sufficient fall can be secured, the drain should be laid from 4 to 6 feet deep. If laid 4 feet, such soil as we have in this valley would be readily drained by placing the laterals 80 feet apart, and, if laid 6 feet deep, the laterals should be placed 150 to 200 feet apart.

The Foundation.—In opening the ditches care should be taken that the ditch at no place should be dug lower than the line of the drain, for the tile should be laid upon a solid, undisturbed bed of earth in order that it may have no opportunity for settling, and the bottom of the ditch should be cleaned by means of a curved scoop or crowbar with a long handle, making it entirely unnecessary for the feet of the operator to touch the bottom of the ditch where the tile is to be laid.

The failure to maintain an accurate fall along the bottom of the ditch is a most serious error in the laying of the tile drains. The only emphasis which I need to give to this important point is to call attention to the object-lesson afforded by the gutters of the Fresno pavements. Their failure to drain away the water which they were designed to carry off does no credit to the engineering skill and the practical sense of those who are responsible for their failure. It is certainly time for the people to insist that there is no excuse for such expensive blunders. A simple triangle, which almost any one can construct, with a plumb line attached, used with some level-headed sense, will obviate all such mistakes. The triangle must be accurate and should be reversible, and the mark or peg should be placed at the proper point, so that, when the plumb line falls upon it, it will indicate the grade which has been established for the bed of our drain.

Laying of the Tile.—The laying of the tile should be begun at the lower end of the ditch, and every defective, misshapen or broken tile should be rejected. Even if they have to be paid for, it is the best economy to throw them out. The joints should be fitted so accurately that it would be impossible for soil to wash through and fill up the tile. Where the soil becomes semi-fluid, like thin mortar, so easily as it does in some parts of this valley, it may be necessary to cover the joints with muslin. This will last sufficiently long for the soil to become compacted; but every opening for the entrance of any dirt must be rigidly excluded. When it is possible the tile should be covered with a clay, or clay soil, to the depth of six inches, and the same carefully packed around the tile; but in doing this, care must be taken that the tile be not disturbed from its bed. Brush, straw or other rubbish should never be used except when it is laid in very stiff clay. It is perfectly ruinous to the drains to follow any such method in the sedimentary soil of this valley, where the tendency to wash out is so great.

The Inlet.—The inlet of lateral drains should never be at right angles when it can be avoided, but a "Y" should be used in the main line and the right angle completed by the use of a few feet of curved

tile. The inlet for the lateral drain should be placed a few inches above the bottom of the main drain, so as to prevent any opportunity for the deposit of sediment. The drains laid in a haphazard careless manner will prove an expensive failure every time; but tile drains laid with the care and accuracy above indicated will prove one of the most satisfactory investments which the farmer ever makes, and will yield him the largest and longest returns for the money invested, which will continue to improve and grow and yield better returns each succeeding year of his life, and at his death will descend to his posterity as a monument of his wisdom.

Cost of Tile Drainage.—The expense has been often overestimated. Forty acres can be reasonably well drained at the depth of 5 feet by using one line of five-inch tile for the main drain and nine lines of three-inch lateral drains. This would place them about 140 feet apart, and would require 1250 five-inch tile and 10,620 three-inch tile. The five-inch tile at $60 per thousand would be $75, the three-inch tile at $30 would be $318.60; total, $378.60, less 20% ($75.72), which would be $302.88 f. o. b. Fresno.

The cost of opening the ditch would depend altogether on the vigor with which the work was prosecuted and the expense of labor. The ditches need not be made more than twenty inches in width at the top and six inches wide at the bottom for the main drain and four inches wide at the bottom for the lateral drains. This would necessitate the removal of less than 2500 cubic yards of earth, which, at a cost of say 15 cents per yard, would amount to $375.

Leveling the bottom of the ditch and laying the tile would require the services of two men at an expense of $4 per day. If the ditch were properly opened, two men could reasonably be expected to level and lay forty rods per day at an expense of 10 cents per rod, or $80 for the 800 rods.

The filling of the ditch can usually be done by the use of a team and a "V," which of course would cost but little, say $50. Summary—Cost of tile, $303; digging ditch, $375; laying tile, $80; filling ditch, $50. Total, $808.

When one cannot afford the entire expense of draining a single piece of land in one season, he can do equally well by laying alternate drains and complete the work at a subsequent time.

Will it Pay?—A properly laid system of tile drainage costs money. Will it pay? If to tile our land costs say $30 per acre, at the present prices of products it would take twelve boxes of lemons or oranges to pay the entire bill. If we have 100 trees to the acre, this would take but one-fourth of a box per tree. Just visit the orange and lemon orchards of Fresno and see the destructiveness which is caused by the alkali and water, and answer for yourselves the question, Will it pay? It would take but one pound of raisins per vine—5 cents a vine for one year—to pay the entire cost. It would take but the saving of one frost to pay you the entire bill. In fact, we would pay the expense of draining over and over again every few years.

HORTICULTURE.

More About Caprification of the Fig.

By George C. Roeding, at the Fresno Farmers' Institute.

The Fancher Creek Nursery was, I believe, the first to extensively advertise the White Adriatic, and it was through it that it was widely disseminated throughout this State and also sent to other States and Territories in the Union. After having fruited it a couple of years on the Fancher Creek Nursery, and after having compared the dried fruit received from old trees growing in various parts of California, the oldest of which were found at Knight's Ferry, Stanislaus county, Mr. F. Roeding came to the conclusion that no amount of processing could ever make the Adriatic fig equal to the imported fig of commerce, and decided to send his foreman—at that time W. C. West—to make a careful investigation of the subject. He arrived in Smyrna early in September, 1885, remained there four months and reached this country again in June, 1887, with a lot of cuttings of figs, pomegranates, etc.

I will not go into details as to the many difficulties he encountered in procuring the fig cuttings, as that would take up too much time. Out of the 15,000 or 20,000 cuttings received, 1800 grew, and my first orchard of twenty acres was planted in 1888, consisting of about thirty caprifigs and the remainder—with the exception of seventy-five table Smyrna figs—divided up into three varieties. I planted twenty acres more, and in 1891 another twenty acres.

Artificial Pollination.—In 1890 the first Smyrna figs grown in the United States were produced by artificial pollination. Not having the blastophaga, I decided to try an experiment, although I felt extremely doubtful of its success. I opened quite a number of the wild figs, shook the pollen into the palm of my hand, and then, rubbing a wooden toothpick in it, introduced the pollen into the orifice of the Smyrna fig. Of the four figs fertilized every one matured, while other figs on the tree, not so treated, when only half grown, died, shriveled up and dropped to the ground. After the fruits were dried, I carefully examined them and found a large number of the seeds perfect—that is to say, they had a seed germ—and, on tasting them, I found the flavor to be very similar to that of the imported article, though not equal to it, for the simple reason that only a small portion of the female flowers had developed seeds as a result of the rude manner of fertilization. This experiment proved conclusively to my mind that the caprifig and the blastophaga were necessary for the production of the genuine Smyrna fig of commerce.

Unsuccessful Efforts.—Having satisfied myself that I had the genuine fig—although I know now that I was rather hasty in forming my conclusions—I foolishly planted twenty more acres, as mentioned above, in 1891, being convinced that, having caprifig trees, I would have no difficulty in introducing the insects. I was doomed to disappointment, however, for in 1892 I received a number of consignments of the caprifig fruits with insects from Smyrna. In 1893 a man was sent to New Mexico and Arizona, it having been reported to us that caprifigs grew there in the foothills; but the gentleman whom we sent returned empty-handed and found neither figs nor insects. In 1894 and 1895 we received several consignments from the Division of Entomology at Washington, D. C. In 1896 a number of consignments were received from Mexico, and in 1897 Mr. Koebele, who was traveling through Mexico in the interest of the Hawaiian Government in search of parasitic insects, kindly interested himself in this matter, and, in my behalf, sent me a number of capri fruits from ficus grown in Mexico, but finally came to the conclusion and wrote to me that he was well satisfied that every variety of ficus had its own species of blastophaga, and, in his opinion, if I wished to succeed, it would be necessary to import the insect from the locality from which my caprifigs had been sent.

Success at Last.—I made every effort to get the insect established from the various consignments extending over a period of six years, but without success. In 1898 I received a number of consignments from Naples, Italy, from W. T. Swingle, a botanist in the employ of the United States Department of Agriculture, through Dr. L. O. Howard, the chief the division. Most of the figs arrived in bad condition, and nothing resulted from this shipment. The consignments which were finally successful were received in the early part of April of this year from Algiers, Africa, and four generations of insects have resulted from them. In addition to this I am pleased to state that I now have on three trees, which I have covered with cloth, between 800 and 1000 capri fruits, which I hope to carry through the winter. All these figs, apparently, are full of galls, in which these insects hibernate. Here they are supposed to remain until spring, when they enter the first crop of capris, appearing from March 15th to April 15th.

Caprification.—Caprification is a subject which has been discussed and investigated by science for hundreds of years, and there still seems more or less mystery surrounding the subject, as to the necessity of it. One point, however, cannot be contradicted, and that is that none of the Smyrna figs introduced into California will mature fruit without being pollinated, either artificially or by the insect.

Leaving out the question entirely of perfect seeds, which without doubt tend largely to improve the Smyrna fig and also give it its peculiar nutty flavor, it still remains an indisputable fact that you cannot grow Smyrna figs without caprification, and my orchard of sixty acres is, I think, a living example of this statement, which I wish to make emphatic.

In order that you may understand this matter, I will say that the caprifig and the Smyrna stand in the relation of male and female to one another; but it must not be inferred from this that all the flowers of the caprifig are male, for the fruit contains male galls and female flowers, the flowers varying in number and quantity in the several crops, but it is only in the June crop in which the male or staminate flowers predominate, and it is this crop which plays such an important part in the production of the Smyrna fig, the flowers of which are all pistillate or female. The fruit known as the fig is really a hollow inflorescence, the flowers being grouped around a common receptacle. The wild or caprifig is monœcious as well as protogynous—protogynous plants are those in which the stigma has lost its capacity for fertilization when the pollen matures, so that the fertilization must depend on the pollen from other sources.

Propagation of the Wasp.—The propagation of the fig wasp takes place in the following manner: The female wasp forces its way with the loss of its wings into the fruit of the caprificus, through the eye, and lays its eggs in the ovaries of the gall flowers. In consequence of this puncture made by the female wasp, the wasp embryo develops in the ovary of the flower. Although the figs are protogynous, the wasp is protandrous—that is, the male matures before the females, the wingless male insect being the first to appear. They gnaw their way into the ovaries in which the females lie, impregnate them and then perish within the fig in which they were born. The winged female then escapes and enters the following crop of the caprifigs, when the same process as described above takes place, or if the fruit is removed, as is done with the June crop, and hung in the branches of the Smyrna fig tree, the wasp forces its way through the eye of this, the edible fig, which is then in the proper state of maturity to admit its entrance, and, in its endeavor to lay eggs and laden with the pollen obtained in its outward passage from the caprifig, fertilizes the female flowers of the former and perishes, leaving no offspring, the construction of the female flowers being such that the insect is prevented from depositing its eggs.

All figs fertilized in the manner described will mature good, edible fruit, while those figs which are not pollinated fall to develop, dry up and fall from the tree when about the size of marbles.

In conclusion, I wish to say that if the capri fruits now on the trees under cover remain on the trees during the winter, there is every prospect of my Smyrna fig orchard producing a full crop of fruit in 1900.

VITICULTURE.

Mr. Pfeffer's Experience in Vine Grafting.

So many readers are thinking about establishing vineyards on resistant roots that notes on vine grafting are read with interest. Wm. Pfeffer of West Side, Santa Clara county, has done much in this line, and recently gave the *Tree and Vine* an outline of his experience, which he revises for the Pacific Rural Press at our request.

Time for Grafting.—Much has been said and written about grafting the vine, and possibly much will yet be said about it. What has bothered me most is the time when this operation should be performed.

Some vineyardists advocate grafting early in the season, before the buds break; others think it is the best time when the buds are breaking, and still others graft with the best result late in the spring, at a time when the vines they intend to graft have made shoots all the way from 2 to 4 feet long.

Now, why are these opinions so far apart?

From my own experiments I remember when I first grafted viniferas, and, inexperienced in the business, I tried to feel my way, and went to work in the last week in January and grafted one-half dozen vines, and for the following seven or eight weeks I grafted each week another lot of six vines. One would be inclined to expect a difference in the result, but there was none. I congratulated myself on the uniform success, and believed grafting could be done during a long period of time, or whenever one is ready with a sharp knife.

Temperature and Grafting.—Later experiences caused me to doubt my own experiment. I observed, whenever heavy rains fell after the grafting, the success was partial, and from the time we quit changing viniferas by grafting, and grafted only on resistant stocks, the difference in the time of grafting became more puzzling.

It is with me a settled fact that the temperature of the soil is the factor determining the success of grafting.

The viniferas, as a rule, callus early in the season; not so the Americans. They wait till the soil temperature is somewhat warmer, therefore early and deep grafting is quite practicable with the viniferas, later and shallow grafting with the native resistant stocks. But since we no longer change the viniferas from one variety to another, and grafting henceforth means the working of vinifera scions upon American resistant stocks, I will put it this way: In loose, naturally warm and dry soils the grafting can be performed with good success here in Santa Clara county, for instance, in the beginning of March, while in clay soils, retentive of moisture and consequently cold, the operation of grafting is best performed during the latter half of April and the first week in May. I would not graft any earlier nor later, but would delay it in the warm class of soils when the weather is wet.

Depth of Grafting.—As to the depth of grafting, or about where the union should be made, I would say even with the surface in cold, retentive soils; a few inches below the surface where the soil is dry and warm. In locations where the surface soil dries quickly the scions should be 8 inches long and hilled up to the top of scion, while in moist soils 5 inches is usually sufficient.

Selection of Vigorous Scions.—But before grafting resistant stock it is advisable that growers should see to it to use only such wood as is taken from healthy vines bearing satisfactory crops. I am quite certain that any variety in any given locality during a number of years in cultivation will develop by the prevailing treatment individual plants not worth the cultivation, while on the other hand if wood is taken for propagation only from such vines being the very best of its kind, coming up to the ideal of the grower, an improvement of the variety can be looked for.

An Instance.—To illustrate, I know several vine

growers complaining every year of a faulty setting of fruit on a part of their Mondeuse vines, and I was ready to lay the cause of this to the exposed situations, to the free sweep of the raw, northwestern winds, because, with me, the Mondeuse are mostly on southern sheltered slopes, and no such trouble is known with the exception of last year and the present season. Since three years we have Mondeuse grapes also scattered over a block of Macaires on a northern exposed slope, and while picking grapes there during the vintage of 1898 I found a Mondeuse vine with unusually large, compact grapes, and lots of them. I marked this vine right then, and told my sons not to prune this vine, as I intended to do it myself when the proper time came around.

All the wood from this vine I used to graft other stock in this same block sloping northward. Most of the grafts are growing and nearly all had the same very large grapes growing on the scion in this season of 1899.

But where the fun comes in the readers will see directly. I, of course, watched not only the grafts and the mother vine during this season, but also all the other Mondeuse on this northern slope, as well as on the southern, and what I have observed is fairly astonishing. The mother vine had again a full crop of very large, compact grapes, and that habit seems to be permanent. Close by were others with crops not worth the gathering, but there were also some vines scattered over this block with a full, satisfactory crop. Just the same condition—some vines with good crops and some entirely blasted—prevailed all over the southern slopes.

Now when my friends come into my vineyard and notice some vines—or, more properly, their stakes—painted with white lead, they will understand that these marked vines are the only ones I propagate from.

In the old style of planting vineyards the principal object of the planter has been to secure as large a plantation and with the least expense possible, and therefore nobody thought it worth the trouble to select the best wood and from the best vines, but in the new way of planting vineyards, which will be more expensive, growers will not be so ambitious in becoming proprietors of the "largest vineyard in the world," and they will have plenty of time and practical insight in the matter to pay attention to the selection of only the very best for propagation.

FRUIT MARKETING.

The Deciduous Fruit Shipments of 1899.

By H. WEINSTOCK, President of the California Fruit Growers' and Shippers' Association.

The importance of widely distributing California fruits in the largest number of Eastern markets and avoiding gluts in a few large centers, seems to be keenly appreciated by growers and shippers, as evidenced by the larger shipments this year to smaller markets, and the opening of new markets in interior places—which, in the report, are grouped under the heading "minor points"—thus, in the interest of the grower, preventing the gluts so common before the creation of this Association. The consignments to foreign markets have also greatly increased—from 42 cars shipped by rail in 1896 to England alone, to 124 cars in 1899, shipped to England, Scotland, Germany and Mexico.

In the early spring it was the opinion of the best informed growers and shippers that the largest yield of fruit California ever produced would be harvested this year, but the late frost, wind and rain proved disastrous to the cherries and apricots, and the early rains and unfavorable conditions, to the grapes. The shipments of peaches, however, were double that of any year since 1894. The shipment of plums and prunes increased 63% over last year. The shipment of apples decreased nearly 20%, while the shipment of pears during the past four years has varied but slightly. The total shipments of 1899 exceeded that of 1898 by 1862 cars—an increase of 37%.

The California Fruit Growers' and Shippers' Association has continued to successfully carry on the work delegated to it by the growers, assembled in convention in 1894: maintaining union auction rooms, at each Eastern auction point, free and open to all buyers, thus getting all the buyers and all the fruit under one roof, at one time, and thereby securing the very highest market price for the fruit. The Bureau of Information has continued the publication of the daily bulletin, giving in tabulated form the report of the railroad companies, of the daily Eastern fruit shipments and of the destination of the cars. While the bulletin is not all that could be desired, and it can hardly be hoped that it can be made perfect, yet it has, even in its imperfect state, proven of great value to the grower and shipper by giving them approximate information of the daily shipments, the varieties of fruit going forward and the date of their probable arrival in the Eastern markets. Since the issuance of the daily bulletin the glutting of Eastern markets have been of rare occurrence, of short duration and attributable solely to local causes.

TABLE SHOWING DESTINATION AND NUMBER OF CARS SHIPPED TO EACH PLACE IN 1895, 1896, 1897, 1898 AND 1899.

Destination—	*1895.*	*1896.*	*1897.*	*1898.*	*1899.*
Chicago	1,473	1,007	1,410	1,203	1,060
New York	862	1,055	1,456	1,429	1,694
Boston	279	471	543	536	710
Philadelphia	82	90	202	176	339
Minneapolis	124	147	180	167	247
Baltimore	37	5	16	16	67
Cincinnati	15	2	20	15	89
Kansas City	91	81	86	116	165
Montreal	44	81	98	96	128
New Orleans	75	85	81	62	126
Denver	148	136	98	229	260
St. Louis	78	68	59	27	115
St. Paul	109	91	121	67	125
Omaha	176	85	165	156	194
Cleveland	29	10	37	25	83
Pittsburg	26	25	44	47	137
Buffalo	15	7	15	5	34
Milwaukee	42	32	52	19	60
England	....	42	58	42	117
Scotland	....	....	....	....	4
Germany	....	....	....	....	2
Mexico	....	....	....	1	1
Minor Points—Canada	....	....	....	....	52
Minor Points—United States	863	532	586	572	1,051
Totals	4,568	4,052	5,323	5 007	6,869

TABLE SHOWING THE NUMBER OF CARS OF EACH VARIETY SHIPPED IN 1895, 1896, 1897, 1898 AND 1899.

Varieties—	*1895.*	*1896.*	*1897.*	*1898.*	*1899.*
Pears	1,187	1,624	1,640	1,595	1,684
Peaches	1,289	976	1,316	1,103	2,625
Grapes	1,010	712	1,100	734	847
Plums and Prunes	465	407	742	542	885
Apricots	162	172	177	123	90
Cherries	180	88	239	297	85
Apples	105	53	61	596	490
Quinces	13	8	24	1	19
Figs	....	2	3	....	....
Nectarines	5	1	10	....	2
Persimmons	....	....	2	1	1
Mixed	152	9	9	15	24
Cars not reported	....	....	....	....	117
Totals	4,568	4,052	5,323	5,007	6,869

Raisin Shipments.

Since the opening of the raisin packing this year shipments have gone forward highly satisfactory to the California Raisin Growers' Association and to the packers who were the purchasers of this season's crop. Standard Muscatel raisins are very scarce, nearly all of this brand having been shipped East and South. There is a lively competition among the jobbers to secure the balance, and it is picked up as fast as car lots can be secured. Pacifics are also scarce, and Orientals, the lowest brand, are moving freely. By the first of January anything in the raisin line will be difficult to buy from packers in large quantities.

To date 1900 ten-ton cars have been shipped out. This is within 175 cars of the shipments up to the corresponding date of last year.

During the month of October, 1898, there were shipped from the Fresno district 1221 ten-ton cars of raisins; October, 1899, the shipments were 876 cars—a decrease of 345 cars. In November, 1898, the shipments aggregated 640 cars; in the same month of the present year there were 719 cars shipped out—an increase of seventy-nine cars over the November shipments of 1898. The aggregate shipments of October and November, 1898, show an excess of 266 cars over the corresponding months of this year.

For the two months of last year above named the shipments averaged seventy-one cars daily—Sundays excluded. The same period of this year showed an average of sixty-one cars daily—Sundays excluded. It is safe to say that not a car of raisins will be left on packers' hands after the 15th day of January next.

THE IRRIGATOR.

Importance of Large Supply Pipes.

TO THE EDITOR:—At the Farmers' Institute recently held in Stockton, the chairman, W. L. Overhizer, stated a fact of more practical value to farmers than the cost of a dozen Institutes. He stated he had two 5-inch centrifugal pumps, one of which had a 6-inch suction or supply pipe, the other an 8-inch pipe, both supplied by the same inexhaustible underground stream, both worked together, or separately, by the same engine.

He observed that the pump having the larger supply pipe raised more water with the same power. This fact has been taught by hydraulic science for more than 2000 years. Because so many farmers have erroneous ideas of hydraulic science, manufacturers have to cater to false notions in order to sell their goods.

Not a few farmers I have found who believed that the pressure on a dam was proportioned to the size of the pond, instead of the height of the column of water resting against it, and I believe a majority of them believe that the full weight of water in the suction and discharge pipes of a pump resists the power that elevates it. In other words, because the suction orifice in Mr. Overhizer's pump is 5 inches, the square of which is 25 square inches, and the suction pipe is 8 inches, the square of which is 64 square inches, it would require over two and a half times as much power to lift the water as would be required in the case of a suction pipe of the same size of the suction piston, or orifice. This is an error. The true theory is the piston, or centrifugal suction, is only lifting the weight of the air from a column of water 5 inches in diameter.



In this diagram let *A* represent the discharge pipe, 30 feet long and 8 inches diameter, in which water is raised by lifting. *B* represents a pipe 33 feet long 8 inches diameter in which the water is raised by suction. Connecting the two solidly is a short pipe, 3 feet long, for working the piston valve and holding the stationary valve *c*, the openings of each being 5 inches in diameter. By working the piston rod, *b*, the air will be pumped out of pipe *B*, and water from the reservoir will flow in to take the place of the air withdrawn, till the water reaches a height to give it weight equal to the weight of the atmosphere or the water in the reservoir. The weight or pressure of the atmosphere on each square inch of surface at sea level in fair weather is about fifteen pounds and is equal to that of a column of water 33 feet high.

Having filled the pipe by removing the pressure of air from the surface of water covered by the pipe, we have changed the pressure from that portion of the water to the closed end of the pipe at *c*. The area of the end of the pipe being about 48 square inches, we have $48 \times 15 = 720$ pounds as the pressure of air on the top of the pipe and also the weight of water which has been forced into the pipe by the pressure of air on the water in the reservoir.

It is error to suppose that the weight of water hangs or pulls down on the upper end of the pipe. It is a part of the water of the reservoir and its weight rests on the bottom thereof—not as a column of water, but as a part of the water on equal level.

The pressure of the atmosphere on our valve *c* is 285 pounds. Because the pressure of the atmosphere is equal on every square inch of surface in the same locality, it logically follows that it will require a power of 285 pounds to work that valve, regardless of the size of the pipe below.

Suppose we now lower the whole 3 feet to enable the piston valve to get hold of the water—that is, bring it within the 33-foot limit of suction. Now, by working the piston, the water may be lifted to fill the pipe, or to any height within the power of valves to sustain it. By lowering the suction, we have reduced the pressure of air on the valves to 259 pounds. By filling up 33 feet, we will add to the weight or pressure of a column of water 5 inches in diameter 285 pounds, a total weight of 444 pounds which has to be sustained alternately by the two valves when the pump is operated. This is just eqnal to a 5-inch column of water the entire height of 63 feet.

So in practical hydraulics there is nothing to be gained by atmospheric pressure except facility of adjusting valves above ground. As a rule, the nearer you get your power to the water supply the better.

This question of atmospheric pressure belongs to the schools. I have discussed it as the only means whereby the false theory that all the water in a pipe sucked by a valve is suspended and hangs on to the valve its full weight. Half the pumps I have seen in California appear to have been invented by men laboring under that delusive idea, as shown by suction pipes one-half the size of valves.

We now take up the question of friction. If our pump was 5 inches in diameter and 63 feet from the surface of the water up perpendicular: To find the power needed to run the water at a speed of 100 feet a minute, we must add to the weight of water one-fourth ($444 + 111 = 555$ pounds). To find the amount of water such speed will furnish per minute, square diameter and multiply by 4, ($5 \times 5 \times 4 = 100$ gallons). Friction increases, or decreases, as the square of velocities. In our diagram the pipes *A* and *B* are two and a half times larger than the 5-inch piston pipe. While the velocity is 100 in the piston pipe, it is 40 in *A* and *B*, and friction is reduced in the ratio of 100 to 16—a saving of 89 pounds in power. That accounts for the fact stated by Mr. Overhizer.

Stockton, Cal. DAL.

California Angoras in Demand.

Wm. M. Landrum, a pioneer goat breeder of Texas, was in San Jose last week, according to the *Herald*, and purchased three fine Angora kids from C. P. Bailey & Sons. One was purchased for J. B. Stump of Oregon, and two for Mr. Landrum's home ranch in Texas. We understand the price paid was $100 for a seven months' old kid, which amounts to a little more than $2 per pound, live weight. In September last Messrs. Bailey & Sons sold a yearling buck to the Chas. Ladd Co., in Oregon, for $150. This buck took first premium at the Oregon State Fair at Salem, Or., and doubtless resulted in the above sale, as well as several other recent sales in Oregon. These prices indicate an awakened interest in the Angora industry and a tendency to buy the best regardless of cost.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

SUGAR MILL CLOSED.—Haywards *Journal*, Dec. 9: The Alvarado sugar mill closed for the season's run on last Saturday.

SHIPMENT OF HOPS.—Pleasanton *Times*, Dec. 9: Twenty-five cars of hops have been loaded for shipment to London.

BEET HARVEST.—Pleasanton *Times*, Dec. 9: The beet harvest was over last week. The total acreage in 1898 was 2520, from which 31,968,920 pounds of beets were raised. This year there were 1700 acres planted, from which 32,086,240 pounds were produced. Farmers were paid $4.50 per ton, or a total of $72,198. It is expected in 1900 that 4000 acres will be planted.

SUCCESSFUL PET STOCK SHOW.—San Francisco *Chronicle*, Dec. 10: The poultry and bench show under the auspices of the Oakland Poultry Association and California Collie Club closed last evening. Besides being the largest display of the kind ever given on the Pacific coast, the exhibition was a financial success, the receipts defraying all running expenses and paying for the prizes. Yesterday's attendance was the greatest of the short season and the directors of both clubs plan a larger show a year hence. Henry Benar of New York awarded the prizes for the best poultry and J. W. Burrell of New York and C. D. Nairn of Ballston, Or., judged the dogs. Premiums were also awarded to the successful owners of pigeons, ducks and hares.

Colusa.

FAVORABLE SEASON.—Colusa *Sun*, Dec. 9: So far the season could not have been more favorable for feed and stock. It has been so warm as to threaten to bring blossoms on some fruit trees. Since the rains set in there has been but little chance for plowing and sowing, but every opportunity has been seized and a large area has been already seeded. The summer-fallow that was planted before the rains is looking fine everywhere. Unless we have a considerable stretch of fair weather or a good bit of north wind it will be hard to get the adobe land planted at all.

Fresno.

BEES IN SCHOOL.—Sanger *Herald*, Dec. 9: Carpenters who were making repairs on the school house in Frankwood district found a swarm of bees located in the attic. They were driven from their abode and the finders secured a tubful of honey which the intelligent insects probably left in payment for tuition.

GOOD FEED IN THE MOUNTAINS.—Sanger *Herald*, Dec. 9: W. B. Hazelton has returned from the vicinity of Patterson mountain, fifty miles east of Sanger, where his cattle have been on the range all summer. The cattle remaining in the snow belt were found to be in good condition, there being an abundance of leaves and other foliage on the bushes, which the stock fed upon after the ground became thickly covered with snow. The cattle were driven below the snow line, where grass is growing finely and feed will be plentiful all through the winter. Mr. Hazelton says the deepest snow in that vicinity was about 2 feet.

SPLENDID POMELOES.—Sanger *Herald*, Dec. 9: C. N. Maxson, of Trimmer Springs, left at this office a fine bunch of pomeloes. There were sixteen specimens on the cluster, which resembled a large bunch of grapes, and weighed 14½ pounds.

SHIPPING ORANGES.—Sanger *Herald*, Dec. 9: The shipments of oranges this season from Sanger station aggregated forty-nine carloads up to last Thursday. This is close to 18,000 boxes and represents something like $25,000. It is thought that fifteen carloads more will finish this season's orange crop on Kings river. An idea of how the orange crop has steadily increased during the past six years may be gained from the records of the railroad office, which shows that seven carloads were forwarded from Sanger in 1893, whereas the shipments this year will probably foot up sixty-five cars.

SPLENDID SEASON.—Fresno *Republican*, Dec. 7: Reports from various sections of the county indicate that an unusually heavy crop of wheat is being sown this year. The oldest grain growers declare that never before did a year open so propitiously, and they predict a yield greater than ever before in the history of the county. Even the West Side country is being broken up this year and sown to wheat. Much of the country surrounding Mendota and Fresno slough is of a very rich quality and capable of producing grain provided the supply of water does not fall short. The soil being of a heavy adobe nature requires more rain than lighter soils and usually gets less. For this reason a crop is seldom or never produced. Lower down on the slough, where the quality of the soil is the same as at Mendota, the heaviest crops of wheat in the county are raised. The secret of success here is irrigation and such a thing as scarcity of crops is unknown. On Dry Creek and in the Clovis country large areas of land will be sown in wheat this year. The lack of frost up to the present time has been very much to the advantage of the farmer. Its presence would have hindered sprouting. As it is, grain sown one week is above ground the next, and thousands of acres of well tilled fields are already covered with a verdant and luxuriant growth—a striking contrast to the conditions that prevailed at this time last year, and a promising sign of future prosperity.

Kern.

FINE FLOW.—Bakersfield *Echo*, Dec. 7: Miller & Lux have developed an artesian well in the lake country that flows 6 inches over a 10-inch casing, and the perforation of the casing is not yet finished. The well is 530 feet deep. It is estimated the water will irrigate a section of land.

Los Angeles.

TRAINLOAD OF CANNED FRUIT.—Los Angeles, Dec. 6: The Southern California Packing Co. have loaded a special train of twelve cars with 250 tons of canned fruits, which are consigned to a Denver firm.

STOCKHOLDERS' MEETING.—Pomona *Times*, Dec. 6: The stockholders of the San Dimas Irrigation Co. have elected Jas. A. Johnstone, B. M. Given, A. B. Smith, L. W. Davenport and Jno. E. Daley directors. The directors organized by the election of Jas. A. Johnstone, Pres.; A. B. Smith, Vice-Pres.; L. W. Davenport, Sec'y.

PALOMARES IRRIGATION CO.—Pomona *Progress*, Dec. 7: At the annual meeting of the Palomares Irrigation Co. the following Board of Directors was elected: F. A. Molyneaux, Thos. Coates, E. B. Hobson, Will F. Loud and Lewis B. Fuller. The directors met and organized by the election of Mr. Molyneaux, Pres.; Mr. Hobson, Vice-Pres.; Mr. Coates, Treas.; H. A. Brougbton, Sec'y.

ANNUAL MEETING.—Azusa *Pomotropic*, Dec. 7: At the annual meeting of the Glendora Azusa Water Co. the following were elected directors: A. P. Griffith, W. R. Powell, J. C. Wright, Mr. Brown, W. J. Cox, M. H. La Fetra and W. B. Cullen. A. P. Griffith was elected Pres.; W. J. Cox, Vice-Pres.; J. E. Daly, Sec'y.

Napa.

PRUNE PRICES.—Napa *Register*, Dec. 8: The prunes dried by the Napa Fruit Co. for stockholders this year netted $30.60 per ton for the green fruit. This is the best price obtained for many years.

Orange.

BEET SUGAR CONTRACTS.—Anaheim *Gazette*, Dec. 7: The American Beet Sugar Co. advertise that contracts will be made for raising beets the coming season. The company pays all the freight, which makes the price 50 cents per ton better than last year. Moreover, there will be no reduction on account of purity.

FAVORABLE OUTLOOK. — Anaheim *Gazette*, Dec. 7; More ground is being broken than probably ever before, and many a patch of barley shows up green and luxuriant. The hum of at least one mowing machine has been heard, and, although the mowing was light, the field of young alfalfa afforded considerable fodder. Grass is growing luxuriantly, and the mountain streams are increasing in volume. The weeding out of the superfluous stock last year has left the farmers with nothing but the best animals on hand. More farming utensils have been purchased than for a number of years past, and on all sides one sees the initial activity of what may develop into a prosperous farming year.

Plumas.

SHEEP LICENSE.—Quincy *National-Bulletin*, Dec. 7: From Tax Collector Short we learn that he collected license on 106,493 sheep grazed in Plumas county during the past season.

Riverside.

NEW BOARD OF DIRECTORS.—Redlands *Citrograph*, Dec. 9: The new board of directors of the Banning Water Company are: Howard Smith of Colton, H. L. Drew of San Bernardino, and W. S. Hatbaway, C. O. Barker and W. F. Hyde of Banning.

DIRECTORS RE-ELECTED.—Riverside *Press*, Dec. 9: At the fourteenth annual meeting of the Riverside Water Company the entire old board of directors were re-elected for the third time, as follows: W. P. Lett, M. J. Daniels, S. C. Evans Jr., Geo. H. Dole, W. F. Montague, Martin Hoover, James Boyd, O. T. Barber, George Frost, D. P. Chapman and W. P. Russell.

San Benito.

DEHORNING THEIR COWS.—Hollister *Bee*, Dec. 6: The dairymen of this section are dehorning their cows. They find it makes them very docile and do very much much better in so doing.

San Bernardino.

SUGAR BEET CONTRACTS.—Chino *Champion* Dec. 8: The price of beets will not hereafter suffer from low purity tests. Mr. Hache, agricultural superintendent for the American Beet Sugar Company, stated that the contracts for the 1900 crop are prepared. There are but two changes from the 1899 contracts, and both these changes are for the benefit of the farmer. The first is that the company will pay the freight to Chino on beets shipped by rail, leaving the price net to the farmer at a distance. The second is the change affecting Chino farmers as well as others. This is that no account is taken of the purity of the beets in fixing the price. The price will be on a sliding scale of sugar percentage only. This will much simplify the adjustment of prices and will be a decided benefit to the farmer.

San Diego.

LARGE ACREAGE OF GRAIN.—San Diego *Union*, Dec. 7: From all over the back country come reports of large acreage of grain being sown, and the prevalence of a better feeling among the ranchers. Everyone feels encouraged and confidently expects large crops next season. The grass is making rapid progress and the hills are changing from a brown, parched appearance to a verdant green.

SALE OF LARGE RANCH.—San Diego *Union*, Dec. 7: Lewis E. Ingalls, a Chicago capitalist, has purchased Las Penasquitas ranch from the Las Penasquitas Land & Water Co. of Riverside for a consideration of $92,500. The ranch comprises 6890 acres and the sale includes 400 inches of water from Las Penasquitas creek. It is Mr. Ingalls' intention to improve the property.

San Joaquin.

REMOVING WEEDS TO PLOW.—Stockton *Mail*, Dec. 6: J. R. W. Hitchcock, a well-known farmer residing in the southeastern part of the county, reports that on the sandy land in his vicinity the weeds are more than waist high, and that in order to plow it is necessary to remove the foul growth. This is done by dragging heavy timbers over the land, horses being hitched to each end of the beam. This process breaks the weeds, which are then raked up. The growth of weeds has been remarkable.

WAGES HIGHER.—Stockton *Mail*, Dec. 9: George Kettleman of Lodi stated that the work of putting in crops was proceeding rapidly. On sandy land the farmers are plowing and much of the grain is up and in fine condition. Many of the farmers on the black land are plowing, although the ground is very wet and work is difficult. He said that wages on the farms are higher this season than they have been for many years. One dollar a day is the current wages for men to drive plow teams. For several years $20 a month was paid for plowing.

NEW CANNERY.—Stockton, Dec. 4: A big cannery will be completed and ready for operation in this city by the time fruit is ripe next season. M. L. Fontana, R. I. Bentley and P. L. Bush inspected several sites, and agreed that one of two pieces would be bought immediately. The local cannery will be constructed and operated by the association controlling all of the canneries. It will be a large one. It is understood that about $50,000 will be spent on the plant. The company expects to open with 500 employes.

Santa Clara.

SEED ONIONS PLANTED.—San Jose *Mercury*, Dec. 7: The seedsmen in this vicinity have completed the work of planting their onion crop, and many thousands of sacks of onions have been set for seed. The outlook for excellent crops was never better. The seedsmen have about completed their shipments of the recent crop, considerable of it going to foreign lands. Charles Parker, who has the contract with the Government to furnish seeds, has made his final shipment to Washington.

Santa Cruz.

BEET SHIPPING.—Watsonville *Pajaronian*, Dec. 7: Beets are being pushed to the factory with all the speed possible. With good weather it will be close to Christmas before the beet delivering campaign closes in this valley; and with the large supply of beets from Salinas valley points the big mill is apt to be at work when the new year opens. The beets of the Mud Flat district are being delivered at the railroad switches, and as the number delivering at Watsonville is rapidly decreasing, the supply of cars for the lower valley crop has increased.

APPLE NOTES. — Watsonville *Pajaronian*, Dec. 7: Up to last night the Eastern apple shipments for the past two weeks were fifty-three cars; total for the season to date, 417 cars. * * There is a remarkable scarcity of five-tier stock this season. It was the reverse last year. When four-tier stock is plentiful the packers have no trouble filling orders. That is the class wanted most of the time. * * There are not many apples remaining in orchards. It has been a late season for packers in gathering their crops, and the storms have played havoc with the fruit which had not reached packing houses. The losses in orchards, owing to storms, were probably the heaviest our packers have experienced.

Sonoma.

CITRUS FAIR.—Cloverdale *Reveille*, Dec. 9: The first steps towards holding the eighth annual Citrus Fair were taken Wednesday, when the annual meeting of stockholders was held. The report of President Caldwell showed an extremely good condition in the affairs of the association. The following were elected directors for the ensuing year: Wm. Caldwell, G. B. Baer, C. Cameron, W. D. Sink and Capt. John Field.

Sutter.

COYOTES NUMEROUS. — Yuba City *Farmer*, Dec. 8: In the southeastern portion of this county and across the line into Placer county farmers and stock raisers are considering the proposition of offering a $20 bounty on coyotes, as these animals have become a great nuisance and many turkeys and sheep are being killed. Turkey raising in that section has become quite an extensive business.

Tehama.

TOP PRICE FOR SHEEP. — Red Bluff *News*: Major E. H. Ward states that he made a sale of mutton wethers to Chas. H. Johnson on Saturday, which brought the top price of the year. In all he sold 3200 head, and got $3.80 per head. The sheep were unusually big and in fine condition, and the Major says they were as nice a lot as he ever sold. They were a part of the big purchase of Oregon sheep which Cone & Ward made here several months ago.

Yolo.

PROSPECTS OF A LARGE ACREAGE OF WHEAT.—Woodland *Mail*, Dec. 8: The farmers are the busiest men in the county at the present time. If we have any kind of favorable weather there will be an immense amount of wheat put in.

BENEFIT OF IRRIGATION.—Woodland *Mail*, Dec. 5: J. T. Stephens of Guinda, who put in an irrigation plant last spring, states that, as a result, he raised an extraordinary crop of potatoes, many of which were nearly as big as a man's hat. A strange thing in connection with it was that all the large potatoes grew on the north side of the vines, those on the south side being much smaller. He has been unable as yet to find any one to account for this.

PROSPEROUS CREAMERY.—Yuba City *Farmer*, Dec. 1: At the annual meeting of the stockholders of the Woodland creamery the following directors were elected for the ensuing year: E. Coll, G. W. Browning, E. A. Dopking, E. S. Farnham, G. N. Merritt, J. Rasmussen and I. Fisher. The balance sheet shows that $27,548.73 was distributed to the patrons for milk, and, after paying all expenses and leaving over $800 cash on hand, a dividend of 8% additional was paid to the stockholders. The following is the data relative to the milk received, butter made, etc.: Pounds of milk received, 3,508,827; pounds of butter made, 160,563; pounds of butter used by patrons, 8814; average test, 3.97; average price of butter, 22 25c; average overplus, 19%; pounds of butter from 100 pounds of milk, 4⅘.

Tulare.

ORANGE SHIPMENTS.—Porterville *Enterprise*, Dec. 8: Up to date 116 cars of oranges have been shipped by the Earl Fruit Co. and A. Gregory. Of this the former shipped 85 and the latter 31 cars. About ten more cars will conclude this season's shipment.

ANNUAL MEETING.—At the annual meeting of the stockholders of the Pioneer Water Co. the following directors were elected: V. D. Knupp, president; Henry Hunsaker, vice-president; F. E. Woodley, secretary; A. G. Schulz, R. H. MacDonald; Pioneer Bank, treasurer.

SPLENDID WELL.—W. H. Henry has completed his well. It is 160 feet deep and 10 inches in circumference. Mr. Henry has obtained a steady flow of 30 inches of water.

SKIMMING STATION.—Tulare *Register*, Dec. 8: The number of patrons of the Tipton Skimming Station has increased from four to ten, and 16,467 pounds of milk were handled during November, the average test 4 7-20% butter and the amount received by the patrons $143.11.

Ventura.

APRICOTS DISPLACING PRUNES. — Ventura *Democrat*, Dec. 8: Several orchardists are grubbing out their prune trees and setting apricots instead. Apricots bear at an early age, and in the long run have proved the most profitable of any of our fruits.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

Young Girls

How easy it is for young girls to go into the "decline." They eat less and less, become paler and paler and can hardly drag through the day. They are on the steady downward course. Iron does them no good; strychnine and bitters all fail. They need a food that will nourish them better, and a medicine that will correct their disease.

Scott's Emulsion

is both of these, elegantly and permanently combined. The Cod-Liver Oil makes the blood richer, and this gives better color to the face. The hypophosphites of lime and soda act as a strong tonic to the nerves. Soon the weight increases, the digestion improves and health returns.

At all druggists; 50c. and $1.00.
SCOTT & BOWNE, Chemists, New York.

WHY THE BEST?

BECAUSE they are made on correct principles, therefore give the best results. The Menzel Hardware Co. of Santa Clara, Cal., state that "they have put up a large number of pumps of all kinds this season, but yours give us and our customers the best satisfaction."

I. L. BURTON MACHINE WORKS. 115-117 First St., San Francisco, Cal., will give full particulars and furnish estimates of pumps run with gasoline or steam engines. Horse powers or windmills—complete plants. Closing out stock of second-hand gasoline engines, 1 to 20 H. P.

THE HOME CIRCLE.

Southern California.

I cannot paint thee well, nor tell the world
All that thou art to me, no more than I
Could paint the flowing music of the bell,
As on the air it falleth ling'ringly,
Or the soft whisper of the many leaves,
Bathed in the sunshine's warm and tender glow,
Or insects hum, which in the evening weaves
Thin tides of song which swiftly overflow
The sea of silence, or the perfumes sweet,
Which mix and mingle all about my feet.

I feel the tenderness of the soft air,
E'en when its poured from late November's lips,
And the upbreathing of the lilies fair,
Which smile beneath the drooping palm trees' tips;
The roses gladsome welcome as I pass,
And, yes, I catch them all—the voices low,
That come from ev'ry sweet-tongued blade of grass,
Coaxed by the blessed rains to come and make
Spring in the heart of Winter for love's sake.

Glad birdsong greets me when the morning wakes,
As well as when the drowsy noon is here,
And happy bee through the bright sunshine takes
Unhindered flight to blossoms growing near;
And with a fond caress the hours go by,
Filled with the sunshine and with sweet perfume,
And Sunset's fingers, moving noiselessly,
Sprinkle rich glory on the gath'ring gloom.
I hear the murmur of soft sounds that seems
Like mem'rys whispers heard in happy dreams.

O land of mountain heights! O land of calm!
Where endless summer broodeth in the air,
Where languorous winds breath only low-voiced psalms,
And great Night's countless eyes look down on fair
Wide fields of bloom, through all the smiling year,
And the fair-lidded months, with open eyes,
All richly crowned and garmented appear,
Sandled with song and sunlight, and with dew;
Fair land of flowers, my heart I give to you.

—Eliza A. Otis, in L. A. Saturday Times.

Sam's Grandmother.

"My dear fellow, I am really glad to see you!" It was a handsome young man who spoke the words to another, who had just leaped lightly from the train at a neat country village not a thousand miles from—well, no matter where. "I does me good to see you, dear old boy. I didn't half think you would come."

"You can't be more delighted to see me than I am to be here, Sam. Why didn't you think I would come? I wrote you I would."

"Oh, yes; but fancy what you had to— Where's your luggage, Jack?"

"Right here—a big telescope and my guncase; you said you had some good shooting about these woods."

"Yes, we have that! Come, bundle the traps right into the buggy, and we'll be off. I dare say Mime has had supper waiting this half hour."

"Up you go then." Jack Cameron tossed his things into the back of the low buggy, took a seat beside Sam, who already sat holding his lines, and they were off down the smooth road to Woodside, the pretty place, two miles from town, where Sam Dermott lived with his old maid sister, since the death of their father left them the owners of land and property.

"Explain yourself, old man," said Jack turning to his friend as they bowled along. "Why did you imagine I would not come?"

"Oh, you were spending your vacation at your brother Tom's and they had a lot of pretty girls there, and so—"

"Just stop right now, Sam; that is the identical reason I ran away."

"What, from the girls?"

"Exactly. Tom's wife is a regular little match maker, as you know. She had those girls out partly with that very idea—thinks it is time I was settled, and all that, you see. I got so fearfully tired of their dressing and flirting and making eyes at a fellow, and talking as if butter wouldn't melt in their mouths—ah, bah! It makes me sick now! Don't you ever believe I was going to stay there when I could be out here with you and Miss Mime—not much!"

Sam threw back his head and gave a hearty laugh.

"Mighty glad we are to get you on any terms, Jack, lad; but aren't you a trifle hard on the girls? They are not all like that."

"Well, most of them are. I'm sick of the whole business. Haven't got a girl waiting for me here, have you? I'll go straight back if you have."

"Then I wouldn't tell you if there was one. But no, there isn't a female soul on the place except sister Jemima and her cook and housemaid, nor very many in the near neighborhood."

"Sure you have not a few coming for a little visit?"

"No, not excepting any. Oh, yes, Mime did get a letter from our respected grandmamma, saying she might drop in on us this week. Nobody else, I assure you."

"Drive on, then. We will let the good grandmamma come if she wants to. She won't interfere with our shooting and fishing. I'm content to stay as long as you'll let me, Sam."

"Then you won't go back to the city grind in a hurry, tell you that! Get up, Dan! Show your heels to our friend, can't you? He's a little dandy, Jack! Cost me a cool two hundred, and I wouldn't look at three for him any day."

The girls were quite forgotten in Sam's pet pony, and before they reached Woodside Jack's face had entirely lost its tired look of disgust with the world in general. Miss Jemima (or Mime, as she was usually called) was standing on the front veranda to welcome them and bid them hasten to get ready for supper, or her nice hot rolls would be spoiled.

They were soon seated at her hospitable board, and Jack did full justice not only to the rolls but the fragrant coffee, rich cream, fresh home-cured ham and eggs, and all the other dainty dishes in which Miss Mime's heart delighted. After supper they paid a visit to the stables before dark, and laid plans to drive to Flat Rock on a fishing trip next day. Two or three similar days flew rapidly by, Jack declaring he would not exchange the good times he was having with Sam for all the girls in the world. Four days after he came Sam was obliged to go to a neighboring town on a bit of law business—he had to be a witness in a land suit for another man—and Jack, not caring to put through a dull day in a country court, intended to spend the time hunting in the woods around the farm.

While they sat at breakfast, or rather as they were rising from the table, a telegram was handed to Sam, which he hastily read and gave an exclamation of vexation.

"Now, hang it all!" said he, "I've got to go on this troublesome case, and here's a message from grandmother—she will be at Hartville this afternoon, and wants me to come over and meet her there."

"Oh, is grandmother coming today?" asked Mime, stopping in the door on her way to the kitchen.

"So this says; and what to do I don't know, unless you will go over, Mime."

"Can't I go?" put in Jack. "I am at the service of the venerable lady for any length of time, and, of course, as she is old and not apt to be very strong, she must not be left alone at a strange place. I'll go for you, Sam, with pleasure."

Sam had turned to Jack with a queer expression on his face, and Miss Mime began to say:

"What? Grandmother? Oh, she's—"

But Sam hastily stepped up to her, said something in a low tone, and turned to his friend.

"The very thing, Jack! I do wish you would go. You can drive Dan to the buggy and I'll take old Cob to the road cart."

"All right; I'll go. How shall I know the dear old lady? Can you describe her, as she will not know me, of course?"

Sam had his back turned and his voice sounded odd as he replied:

"Oh, the station agent at Hartville knows her. She often comes that way. He will show her to you. Be sure to take good care of her, Jack. Ha! ha!"

"To be sure I will. What are you laughing at, Sam?"

"Oh, only an idea that struck me—something about Donovan's case. Good-by, old boy. I'll be at home as early as possible. Don't forget to meet Grandmother Dermott. Good-by. Ha! ha! ha!"

Sam went out, leaving Jack wondering what tickled him so; but as he was not familiar with the Donovan case, of course it might be a very funny one.

At three o'clock that afternoon Jack drove up to the little dingy railroad station at Hartville and hitched Dan to a convenient post. He drew out his watch, and, glancing at it, observed:

"Not much time to spare! Train's due now, if Sam was right. Ah, there it comes! Where's that agent? Never mind him, anyway! If only one old lady gets off I shall know it is Sam's grandmother without any introduction. I'd better be near; the dear old soul may need help to get off."

Jack gallantly drew very close to the train as it stopped, and stood waiting for his passenger. There were half a dozen countrymen, two women with babies in their arms and a fat colored woman; nobody else except a slender girl in a stylish black suit, at whom even woman-hater Jack had to cast a second glance, she was so exceedingly pretty and attractive.

"Where's my old lady?" he said to himself. "Something must have happened, for she is certainly not here. I wonder why she did not come?"

But as she had not, he was about to go back to the buggy, when he saw the handsome girl standing near him with a perplexed look on her lovely face.

Jack stepped up, lifting his hat.

"Beg pardon, miss, but can I assist you? Are you looking for some one?"

The lady gave him a smile and answered:

"Yes; I did expect some one to meet me from Woodside Farm, but no one is here. Are there any conveyances to be hired at this place, do you know?"

"I do not, indeed," returned Jack, astonished. "But I come from Woodside myself. I, too, expected to meet a lady who has not arrived—Mrs. Dermott."

The lady smiled again, and said brightly:

"Oh, then we are all right! I am Mrs. Captain Dermott, and you must be the friend Sam wrote they were expecting from the city."

"I am Sam's friend, certainly, but—but—there is some mistake," stammered Jack. "I—I came to meet Sam's grandmother—a very old lady."

A merry little laugh was his answer.

"I think there is no mistake, Mr. —"

"Cameron," Jack barely had sense to supply.

"Thank you, Mr. Cameron; then I believe it is all right. I am Sam's grandmother, though perhaps not so old as might have been expected. Did you ever know that Captain Dermott was married only two years before his death? And I was sorry, even if he was an old man, for he was so good to me," she added, honestly, a regretful look coming over her sweet face.

Jack made out to stammer again:

"I—I never heard. I did not—I was not—oh, excuse me, miss—madame, I mean—but I am really knocked off my pins, if you will forgive the slang, with this surprise. I was prepared for a white-haired, feeble old lady, who would need help in getting off the train, but not—not this, you see!"

Another merry laugh from Mrs. Dermott.

"I wonder Sam or Mime did not tell you better. Why did not Sam come with you?"

"Had to go over to Cloverton on somebody's lawsuit. So I took his place. And really, Mrs. Dermott, I am not always such a fool! Pardon me, and tell me where to find your baggage. I will see to having it sent out."

"Thank you. There is only one trunk. Here is the check."

She gave it to him, and he had presently engaged the wagon to bring it to the farm, had put her into the buggy, and was driving back to Woodside, for once in his life almost dumb. He simply could not talk, he was so provoked at himself for making so great a dunce of himself, and at Sam, who he saw had played a clever trick on him.

"I know now what he laughed at this morning," he thought savagely. "Oh, but I'll get even with him for this if I have to be his grandfather to do it!"

When they stopped at the door Mime came running out to meet them.

"You found her, did you?"

"Yes, I did, and I made a big fool of myself, Miss Mime, and I believe you and Sam planned it all, too!"

Then they all three broke into a laugh, and when Mrs. Dermott, after she had kissed Mime, held out her white hand and said, pleasantly. "But you mustn't be angry with me, Mr. Cameron, for I was as innocent as yourself. Shall we be friends?" He could do nothing but extend his own and say, humbly:

"It shall not be my fault if we are anything else. I don't care whose grandmother you are!"

But when he was alone with Sam that night didn't Sam catch it!

"I declare, I never thought but what you knew," he said, when Jack would let him speak at all. Grandfather Dermott married a young girl a few years before he died, and of course by law she is our grandmother.

"She don't look like a girl who would make that kind of a marriage," said Jack, thoughtfully.

"It was not 'that kind of a marriage' as you mean it. Grandfather was alone, and needed a woman's care and love. Cora gave it because she pitied him much more than because she knew he would leave her a fortune when he died. She's a lovely woman, and might have made several good matches since grandfather went, but she wouldn't listen to them. Jack, she'd suit you to a dot."

"Perhaps I wouldn't suit her, though. Sam, when you saw I did not know this morning why didn't you tell me?"

"Well, then, I must confess it struck me to carry out the joke, and let you find out for yourself, so I stopped Mime when she was going to tell. Don't be mad, old fellow."

"I won't promise; it depends. I'll tell you what I will do. If she don't say no I'll pay you up by making myself your grandfather, Sam."

"Go in, Jack! Go in and win!"

Jack did win, for the last letter Sam had from him was written while he was on his wedding trip, and signed "Your affectionate and happy grandfather."

A Close Call.

The gray-haired stranger bent over the desk.

"Are you the society editor?" he questioned.

"I am the identical," said the flippant young man.

"Are you the person who wrote up the account of the Munn reception?"

"Yes. Anything wrong about it?"

"That's what I want to find out. Look here. You notice that in speaking of my daughter you use this paragraph: 'She swept about the room with an inherited grace that caught every one.' Now, what was your purpose in writing that?"

"Why, it struck me as a first-class chance for a neat compliment to her esteemed parents; that's all."

"Sure you didn't mean to insinuate that her father laid the foundation of his fortune by selling brooms?"

"Certainly not."

"Because I did, you know."

"I didn't know it."

"Then that's all right. Good-day."
—Collier's Weekly.

Life may change, but it may fly not;
Hope may vanish, but can die not;
Truth be veiled, but still it burneth;
Love repulsed, but it returneth!
—Shelley.

Family Influence.

Family influence is a powerful thing between husband and wife. If a husband has any strength of character, he is sure to bring his wife to his way of looking at things. If this were not the case, what a wall of separation there would often be between married couples. As a general thing, the young wife nestles comfortably in her husband's beliefs. It is not his arguments that work her to his voluntary agreement, but the silent force of a stronger or wiser character acting upon her daily life; and there is really something very fine and sweet in this adaptability and unconscious acceptance of a superior influence. Much has been said and written about the duty of "setting a good example" in the family; but there is no necessity to worry about our example, for the only example worth anything is that shown by being really ourselves. If a father is upright, a mother is loving, a brother brave and truthful, a sister gentle and tender, those who live with them know it and are influenced by these virtues. Parents and kindred who deserve to be honored and loved are honored and loved as a matter of course, and it would be a wretched world if this were not so, for, when every other anchor drags, the one that binds us to home and family holds firm.—Amelia E. Barr.

The Value of Good Looks.

Unless you have qualities of mind to sustain your good looks it is a misfortune to be pretty. If you are of humble parentage it is also a misfortune to be beautiful, although in rare cases it has occurred that beauty has lifted a girl to a high position in the social world.

The affection which is merely born of good looks is not worth having, because it invariably languishes when the years begin to leave marks upon the face. Given refined manners, a good, clear head, and sense enough to make the most of every opportunity, a woman can compete more than favorably with the prettiest girl that ever breathed.

I once heard a girl remark that she would rather be gifted with style than beauty, and she was not wrong; for style never deserts a woman, as long as she can keep her waist line and a straight back. History teems with instances of the curse of beauty, and even in this matter-of-fact world of ours in modern life good looks have been a stumbling block in the way of some girls, and one they would gladly remove if they could do so by wishing.

It is an irretrievable error to grow weary of failure and fall back upon a limited and unprogressive perfection, or spurn the condition of existence, and endeavor to realize in this life what is the work for eternity. — Edward Dowden.

School Teachers

and High School students can make their Saturdays and their Winter vacation exceedingly profitable by securing subscribers to

The Ladies' Home Journal
AND
The Saturday Evening Post

An agent does not have to convince one against his will in order to secure a subscriber to either of these unique, high-class periodicals. There is no argument against them. There are innumerable arguments in their favor.

Liberal commissions on all subscriptions. Liberal rebates for large clubs. The larger the club, the larger the rebate.

And in addition to these inducements, we are going to give $18,000 to the 764 most successful agents.

Write for particulars.

The Curtis Publishing Company, Philadelphia

Compliments Always Enjoyed.

Age may bring wrinkles and snowy hair, but it never burns out the love of compliments and pretty speeches in the heart of a woman. If men would remember that women grow beautiful and sweet of character when told that they are beautiful and sweet of character, the world would not know half the shrews and fretters and scolds who keep things stirred up as if with a soup ladle. I know a woman who must be sixty years old if she's a day, but is a pretty compliment lost on her? Not a bit of it. She has been living on them all her life, and for that very reason will be young and fresh when another woman would be faded and old. She inspires sweet thoughts by her manners and charming, interesting mentality. Just the other night she was sitting in a box at a theater, sharing an evening's enjoyment with sereral other play-goers, when a young man appeared on the stage and claimed her attention.

"I saw that man's father play with Charlotte Cushman thirty years ago," she remarked to a man who sat behind her.

"You must have been brought in on a pillow," he answered.

Now, why in the world do not men cultivate cleverness like that?

Veils.

Dr. Wood has pronounced veils to be most injurious to the eyesight. After selecting over a dozen specimens he applied the ordinary tests of ability to read while wearing them. These tests showed that every kind of veil affects more or less the ability to see well, the vision being interfered with in direct proportion to the number of meshes in a square inch. The texture of the veil is important, as the following comparisons will show: Wearing double mesh veil, one loses 40% of vision; a dotted chenille veil, 20%; large dots far apart, plain mesh between, 10%, and plain mesh, 5%.

It has been proved that the finer and wider the mesh the less injurious. Experts declare that all complexions are better without veils, as they secrete particles of dust which clog the pores of the skin.

A GREAT MANY THINGS that are now used for food were once considered poisonous. Lemons were considered poisonous by the Romans, who used them to scatter among their clothes and keep away moths. It was a bold man who first dared to eat a tomato or cook an egg plant.

WITH a quickened eyesight, go on discovering much good on the worse side, remembering that the same process should proportionably magnify and demonstrate to you the much more good on the better side. — Robert Browning.

DOMESTIC ECONOMY.

Golden Wedding Cake.

Take two pounds seedless raisins, two pounds seeded raisins, two pounds well cleaned currants, one pound fine sliced citron, one pound butter, half pint brandy, one pint molasses, one pound sugar, two teaspoonfuls grated nutmeg, the same of ground cannamon, cloves and mace, twelve eggs, one pound of flour sifted with two teaspoonfuls baking powder. Put the fruit in a bowl, sprinkle over two handfuls of flour and mix well together; put the fruit in a collander and shake off the loose flour. Stir butter and sugar to a cream, add the eggs, two at at time, stirring a few minutes between each addition, then add the molasses and spice. When that is well mixed, add the brandy and flour and last the fruit. Butter two large round cake pans, then line them neatly with brown paper, pour in the cake mixture, moisten the hand with cold water, and with it smooth the top. Take two round pans a little larger than the ones holding the cake mixture, put then a double folded paper in the bottom of each, then place one of the pans with cake in each one and bake in a very slow oven about four hours, or send to a reliable baker, and have them baked. Three times the amount of this recipe will produce about forty-five pounds of cake.

Domestic Hints.

FRIED SCALLOPS.—Wash, drain, dry thoroughly, cover with fine bread crumbs, beaten egg and seasoned crumbs and cook, a few at a time, in deep, hot fat. Serve with sauce tartare, made by flavoring half a cup of mayonnaise dressing with one-fourth cup of mixed olives, capers, onions, pickles and parsley all chopped fine.

APPLE POTPIE WITH MAPLE SUGAR SAUCE.—Half fill a deep dish with sour apples which have been quartered, pared and cored. Pour over them a little boiling water and place in a hot oven until tender. Make a crust as for baking powder biscuit, roll out an inch thick, lay it over the apples and return to oven for about forty minutes, or until crust is done. For the sauce, cook together two tablespoonfuls of butter and one teaspoonful of flour, add half of a cupful of maple syrup and a tiny pinch of mace, and cook until clear and smooth.

CHOCOLATE LOAF, CHARLOTTE RUSSE FILLING.—Make a sponge cake of six eggs, two cupfuls of sugar, a tablespoonful of lemon juice, half a cupful of boiling water and two cupfuls of flour. Beat the yolks and sugar until light, add flavoring, then the whites beaten very stiff, next hot water and lastly the flour; bake in a large loaf. When cool, take out the center, leaving an inch rim on sides and bottom. Cover inside and outside with a frosting made of an ounce of unsweetened chocolate melted, one and one-half cupfuls of sifted confectioner's sugar, vanilla to flavor and hot water to mix a smooth paste.

POTATOES AU GRATIN.—Cut into dice sufficient cold boiled potatoes to measure one pint. In a saucepan put one tablespoonful of butter, one tablespoonful of flour, one-half of a teaspoonful of salt and one-quarter of a teaspoonful of white pepper. Cook until well mixed, then add one cupful of milk and stir until smooth and thick. Add the potatoes and simmer for five minutes, then pour into a buttered shallow baking dish. With one scant cupful of fine, dry crumbs, mix one tablespoonful of melted butter, spread over the prepared potatoes and place in a hot oven until the crumbs are golden brown, then serve.

SWEET POTATO CROQUETTES.—To two cupfuls of sweet potatoes which have been boiled and mashed add seasoning to taste of salt and pepper, a tablespoonful of butter, two tablespoonfuls of milk and the beaten yolks of two eggs. Mix well, put in a saucepan and stir over the fire until the potato leaves the sides of the pan. When cold, form into rolls about an inch in diameter and three inches long. Dip in beaten egg, then in bread crumbs and fry in boiling lard until an amber color. They will look well arranged as a border around a mound of mashed potatoes and decorated with tiny sprigs of parsley.

CHICKEN PIE.—Singe, clean and disjoint two or three nice chickens. Cover them with boiling water and parboil until tender. Take the meat from the bones, mash the livers and hearts and add them to the gravy. Line a deep earthen pudding dish with puff paste and place in it the chicken meat which should be cold; sprinkle over with pepper, salt, a dust of flour and a teacupful of butter, dividing the butter among the layers. Pour in as much of the thickened broth as the dish will hold. Put over the top crust, cut a gash in the middle and bake it in a brisk though not overhot oven, covering the paste with paper until the pie is nearly done. Oysters mixed with the chicken make a fine pie.

Hints to Housekeepers.

In compounding different dishes study wholesomeness as well as excellence of flavor.

The despised codfish ball is quite transformed if it is moulded in croquette shape and offered with tartar sauce.

In serving any course, give small portions. Large helpings are unpleasantly suggestive of vulgar overfeeding.

Break, instead of cutting, lettuce leaves apart. Keep in cold water until ready to serve, and add the dressing at the table.

It is said if camphor gum is put in the drawers in which silver is kept that is but seldom used that the camphor will prevent the silver from becoming tarnished.

Children's teeth require special attention. A spool of dental floss should be kept in a convenient place, and a piece of the silk passed between the teeth after eating. If the first teeth are defective, or decay quickly, a dentist should be consulted and his advice followed, in the hope that the permanent set may be benefited.

Nothing makes a more effective decoration for a dinner table than chrysanthemums. A round table, set for twelve persons recently, had a round plateau of bronzed oak leaves for a center piece, combined with white, yellow and red, and yellow chrysanthemums, the autumn foliage forming a background for the flowers, which were stuck in between the shaded leaves.

When making down pillows do not forget to wax the inside of the tick coverings. This precaution will prevent the annoyance of the feathers working their way out, and as the process is simple it should on no account be neglected. Iron the wrong side of the tick with a flat iron rubbed with beeswax, renewing the wax on the iron each time before putting it on the cloth.

Mutton cutlets are taken from the leg and to be prepared for dinner they should be first browned very quickly in a hot pan, transferred to a shallow stewpan and sufficient brown sauce added to cover. If there is no brown stock on hand with which to make the sauce, lift the cutlets from the stewpan and to the fat remaining in it add flour to thicken. Stir until well browned, then gradually add sufficient hot water to make a thin, smooth sauce. In addition to salt and pepper, one clove and a quarter of a teaspoonful of curry powder may be added. When the meat is returned to the stewpan, it should be closely covered and kept at a very slow simmer for two hours and a half.

STEVENS RIFLES

Encourage boys to an active, rollicking, out-of-door life in field and forest, conducive to health and affording a practical acquaintance with Nature without which no boy's education is complete. Besides the practice of shooting induces steadiness, deliberation, accuracy; valuable qualities in any business of life.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Dec. 13, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	66⅜@65⅝	70 @69⅛
Thursday	65 @66¼	69¼@70
Friday	66⅛@66⅝	69⅞@70¼
Saturday	66⅜@66⅛	70¼@69⅞
Monday	66⅛@65⅛	70 @69¼
Tuesday	65⅜@65⅜	69⅜@69

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Dec.	May.
Wednesday	5s 7½d	5s 9⅜d
Thursday	5s 7½d	5s 9½d
Friday	5s 7⅜d	5s 9⅜d
Saturday	-s —d	5s 10 d
Monday	-s —d	5s 9½d
Tuesday	-s —d	5s 9½d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	Dec.	May.
Thursday	1 07¼@1 06¾	1 11 @——
Friday	1 07¼@1 05¾	——@——
Saturday	1 05⅞@1 05⅞	1 10⅛@1 09⅛
Monday	1 04½@1 03	1 08 @——
Tuesday	1 03⅝@1 03⅝	——@——
Wednesday	1 04⅜@1 05⅛	——@——

Wheat.

The upward movement in wheat values, so vigorously announced the past week or two by some parties who seem to he unwittingly capping for Call Board brokers, has failed to demonstrate itself. The writer would be very much pleased to see wheat values advancing, hut it is worse than folly to state that prices are advancing when the reverse is the truth. The wheat market has been in worse shape this week than at any previous date this season. The weakness, however, was much less pronounced in Eastern and foreign centers than here. This was partly attributable to the heavy stocks reported in State on 1st inst., 800,000 tons. Spot values have declined about 50c per ton, and there was a corresponding decline in the price of May wheat. In Chicago and Liverpool options there is very littie change to record from the figures of a year ago. The world's "visible" supply showed for the week an increase of 3,670,000 bushels, and the week's shipments showed an increase of 2,307,000 hushels. To-day (Wednesday noon) May wheat shows a recovery of 1¾c from lowest figures of yesterday, closing at $1.05⅛, but spot market shows no improvement.

The report of stocks of wheat in the State on the 1st inst., as announced by the San Francisco Produce Exchange at close of last week, was a surprise to many, if not to all who are interested in this cereal. In the previous year, or from the crop of 1898, there was little more harvested than needed for home use, and it was only on account of carry-over stocks and importations that exporting business was possible, even on a light scale. With a "dry season" the past year, it was not generally supposed the yield would be very much larger than previous season, although there were some decidedly beneficial showers in the late spring. It has been before stated in these columns that the spring can make or ruin a crop, as the weather proves favorable or unfavorahle, good or bad, almost regardless of previous conditions. This was clearly proven the past week by the returns of stocks remaining in the State from the crop of 1899, showing the supply of wheat to aggregate 800,000 tons. Taking into account the amount already shipped, the quantity carried over from previous year, the amount imported and the quantity consumed locally, and the California wheat crop of 1899 figures up practically 1,000,000 tons, affording an exportable surplus of 400,000 tons, to which must be added the carry over stock and the importations from Oregon and Washington and other outside points to ascertain the true surplus. This will increase the quantity available for shipment to about 750,000 tons, which is certainly a very good showing for a dry year. No one last winter or in the early spring would venture the assertion that this State would have a million-ton crop of wheat. It is unfortunate that there are not enough ships here and headed this way to remove such an amount oi grain, the present supply of ocean tonnage, here and on the way, showing a carrying capacity of only 350,000 tons, or less than half the quantity required. This is almost certain to insure a high and unfavorable freight market throughout the season. Ocean freight rates are now 35@36s 3d per long ton for iron ships chartered to carry wheat to Cork, U. K., there to receive orders as to final destination, Havre Antwerp and Dunkirk being included in the option. A fleet of about 130 more ships would be necessary to move the entire surplus, as now estimated. There is not much likelihood of this extra number of ships arriving in time to be available for this season's business. It is always necessary, however, to carry some surplus over into following season, and if values for wheat continue on the low plane now foreshadowed, there may be a desire to carry over considerably more wheat than necessitated by the limited supply of ships.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per centai for the week were as follows for the options named:

Decemher, 1899, delivery, 97¼@98c.
May, 1900, delivery, $1.07¼@1.03⅜.
December, 1900, delivery, $1.10⅛@1.08.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at —— @ ——c; May, 1900, $1.04@1.05⅛; Dec., 1900, $——@——.

California Milling	$ 97½@1 05
Cal. No. 1 shipping, alongside	95 @ 97½
Oregon Valley	92½@1 00
Walla Walla Blue Stem	90 @1 02½
Walla Walla Club	80 @1 00
Off qualities wheat	75 @ 90

STOCKS OF GRAIN IN STATE.

The San Francisco Produce Exchange gives the following totals of the stocks of grain and flour remaining in the State on Decemher 1st for the four years named:

Dec. 1st.	1899.	1898.	1897.	1896.
Flour, hhls	112,136	122,833	115,992	100,078
Wheat, ctls	15,998,280	6,494,800	9,132,640	7,495 380
Barley, ctls	4,788,280	1,264,200	3,136,020	3,008,980
Oats, ctls	235,700	186,000	106,160	189,360
Rye, ctls	54,140	38,440	35,240	81,340

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	-s—d@-s—d	6s2d@6s2½d
Freight rates	25@26¼s	35@36¼s
Local market	$1.13¾@1.16¼	$0.97⅛@1.01¼

The prices ahove are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

The flour market continues to show weakness, with movement light. Quotations are unchanged, but concessions to huyers from full current figures are the rule rather than the exception. The quantity of flour reported in the State on the 1st inst.,—112,136 barrels, —is of fairly liberal volume as compared with previous years. On Dec. 1st, 1895, only 82,100 barrels were stated to be on hand. Stocks reported at corresponding date for the past three years showed little difference in quantity from present supplies, as above noted.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

In consequence of the semi-annual stock statement showing a greater quantity of barley in the State on the 1st inst.,—238,944 tons, —than was generally estimated, the market has been inclining more against sellers than for a week or two preceding, although the disposition to cut rates in favor of buyers was confined more to defective qualities than to high grade barley. The stocks on hand are the heaviest ever reported at corresponding date. The next heaviest quantity was 204,352 tons on Dec. 1st, 1888. On Dec. 1st, 1895, the amount waa very close to above figures, being 203,628 tons. Incluaed in the outward movement the past week was a full cargo of 55,888 centals, valued at $52,268, and destined to Cork, U. K., for orders. Of this cargo 15,702 centals were Chevalier harley. The exports for the season are now clese to 150,000 tons. A year ago the exports footed up less than 13,000 tons, and two years ago, when barley was in fairly liberal supply, the shipments at corresponding date aggregated 125,600 tons. Several of the ships now on the engaged list will take barley as whole or part cargo.

Feed, No. 1 to choice	80 @ 82½
Feed, fair to good	65 @ 75
Brewing, No. 1 to choice	87½@ 97½
Chevalier, No. 1 to choice	1 00 @1 07½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, ——@——c.
December, 1899, delivery, 83@80⅞c.
May, 1900, 78@77c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, ——c. Nothing was done in barley options.

Oats.

Market has developed no particular change in quotable rates, but in consequence of fairly liberal receipts and tolerably heavy supplies in State, there has been a rather easy tone, much more pronounced on ordinary than on choice to select qualities. Supplies in State on 1st inst. are given by the San Francisco Produce Exchange at 11,785 tons, which is the largest quantity reported since Dec. 1st, 1893, when the amount on hand was given at 12,675 tons. The lightest stock in the meantime at corresponding date was on Dec. 1st, 1897, when only 5,308 tons were reported in the entire State.

White Oats, fancy feed	1 25 @ —
White, good to choice	1 15 @1 22½
White, poor to fair	1 07½@1 12½
Gray, common to choice	1 10 @1 20
Milling	1 15 @1 25
Surprise, good to choice	1 20 @1 30
Black Russian	95 @1 07½
Red	95 @1 20

Corn.

With insignificant supplies of this cereal, hoth in this center and in the interior, the market naturally inclines against buyers. The recent moderate receipts have been almost wholly Eastern product, and have gone to millers and jobhers as deliveries on prior arrival purchases. Quotations for the time being are necessarily based in the main on prices realized in a jobbing way, and this must continue to he the case until spot stocks are sufficiently increased to admit of wholesale operations. Materially increased receipts are looked for in the not very distant future.

Large White, good to choice	1 02½@1 07½
Large Yellow	——@——
Small Yellow	1 25 @1 35
Eastern Mixed	1 00 @1 05

Rye.

Quotable values are without appreciable change. There are no large offerings in this center, but stocks in the State are given at 2,707 tons, as against 1,922 tons a year ago. On Dec. 1st, 1896, stocks in the State were reported at 4,067 tons, and on Dec. 1st, 1895, at 6,275 tons, the largest amount ever reported.

Good to choice, new	1 00 @1 05

Buckwheat.

Very little arriving from any quarter. The market cannot be termed weak, at the same time, no great quantity could be placed at full current rates.

Good to choice	2 00 @2 10
Silverskin	— @ —

Beans.

The bean market is not showing much life, which is to be expected and is almost invariahly the case at this time of year, dealers generally avoiding purchasing in December, unless actually compelled to. There is no weakness apparent, however, unless it be on seriously defective qualities. Holders of latter sort are anxious to unload and find it difficult to secure huyers at any figure. The San Francisco Produce Exchange reports stocks in the State on Dec. 1st at 268,117 sacks, as against 513,459 sacks a year ago, 713,749 sacks two years ago, and 700,963 sacks three years ago. The 1897 stocks are the largest ever reported. While the Exchange statistics on beans are by no means regarded as infallible, they are presumahly approximately correct, and are the only statistics furnished of all the stocks of this product held in the interior.

Pea, fair to good, 100 lbs	2 75 @3 00
Small White, good to choice	2 75 @3 00
Lady Washington	2 25 @2 40
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 50 @2 75
Bayos, good to choice	3 25 @3 50
Reds	3 75 @4 00
Red Kidneys	3 00 @3 50
Limas, good to choice	4 85 @5 00
Black-eye Beans	4 50 @4 75
Horse Beans	@——
Garbanzos, large	2 50 @2 75
Garbanzos, small	2 00 @2 25

Recent advices by mail from New York give the following review of the bean market, prices quoted being per 60-lb. bushel:

The market bas remained unchanged tbis week. Trade has heen light, but offerings moderate, and with strong advices from primary sections there has heen no disposition to force husiness at the expense of lower prices, and desirable heans bave been held steadily. Medium have ranged from $2.05@2.10 and Pea $2@2.05, though outside figures have been extreme as a free selling hasis. Marrow have generally brought $2.25 for best old and $2.15@2.20 for hest new with tone about steady. Red Kidney were generally held at $2.35 for hest new early in the week, but exporters have not been interested this week and $2.30 would now he accepted in some cases, hut little actual business reported. White Kidney generally scarce. California Limas are moving slowly at $3.30@3.35. Other heans have sbown no new feature. Green peas have continued quiet hut steady at unchanged prices.

Dried Peas.

Market is lightly stocked and is strong at previously quoted range, more particularly for the Niles variety, these commanding for the time heing relatively the stiffest figures.

Green Peas, California	2 10 @2 25
Niles Peas	2 10 @——

Wool.

The market shows the same strong tone as previously noted, with stocks in this center worked down to small proportions, and likely to he wholly exhausted in the near future. Very little of the wool now remaining here is in first hands, and stocks would be still smaller if owners had been afforded better transportation facilities and easier freight rates than have been lately current. Not in twenty years has there been a similar condition of affairs existing in the wool market. During the past two decades financial wrecks in the wool trade have heen so numerous and common that they latterly elicited little or no comment or surprise, coming to be seemingly regarded as a natural sequence of the business. The past two years and more, particularly the year now closing, stand out as brilliant exceptions where the business showed a balance on the right side of the ledger. How dealers will fare the coming season is somewhat problematical, but it is tolerably well assured that the growers will be favored with a clip of exceptionally fine quality and that it will meet with a good market. Quotations are now largely nominal and must remain so for several months to come.

SPRING.

Oregon Eastern, choice	13 @16
Oregon Eastern, fair to good	11 @13
Oregon Valley	17 @19

FALL.

Humboldt and Mendocino	16 @17
Middle Counties, defective	9 @12
Northern, free	11 @14
Northern defective	9 @11
Southern Mountain	8 @10
San Joaquin Plains	—@—
San Joaquin Lamb	—@—

Hops.

The market remains devoid of encouraging features for the holding or selling interest. While there are not many strictly choice to select hops offering, there is no evidence that they could be placed at what could be termed good figures, not even at such prices as were realized early in the season, although values then were at a low range. There are considerable quantities of fair to good hops still in first hands, and for which it is difficult to obtain a market. When a buyer is secured, prices must he accepted which will not bring the grower out whole. Most of the recent sales bave heen within range of 6@7c, the latter figure taking some hops of very good quality.

Good to choice, 1899 crop	6 @ 9

The following concerning the hop trade is from a New York authority and comes through by recent mail:

While the general conditions of the market show little change, with few new features of interest to note, still there is a continued fairly active movement at primary points, with purchases reported all the way from 7½@13½c, with hulk of the husiness doing from 12@13½c. Dealers here express considerahle surprise at the prices ohtained for some of the late purchases, many of the lots showing very irregular condition. From the Pacific slope advices report a continued satisfactory movement with stocks gradually but surely reducing; not so much business reported at the higher figures as of late, as the hest grades have been pretty closely selected out. English advices report the crop as showing a much larger proportion of inferior grades than was originally supposed, and more anxiety shown to move such grades with stocks offered at lower prices—down to £2 and £3 per cwt. for common and medium sorts. Fine grades are scarce, hut also easier to huy. German advices report a firm holding and prices a trifle higher. On the local market there has heen more interest shown hy hrewers and a fairly good movement reported. The feeling continues firm on choice grades, hut nothing to warrant actual change in quotations.

Hay and Straw.

Weakness continues to he the leading feature of the hay market, and the prospect for any change for the better is not encouraging. Although there are no heavy arrivals, offerings proved larger than the immediate demand, most buyers not caring to stock up ahead of immediate needs. Strictly select wheat hay is plentiful, and occasional sales of the same are made at a moderate advance on quotations, but for most other kinds full current rates below noted are not readily realized. Straw is arriving rather sparingly, but sells to no better advantage than for some time past.

Wheat	7 00@ 9 50
Wheat and Oat	7 00@ 9 00
Oat	6 50@ 8 50
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	—@—
Compressed	7 00@ 9 50
Straw, ₱ bale	30@ 45

Millstuffs.

Increased receipts of Bran, with no corresponding increase in the demand, caused the market to rule very weak. Tendency of prices for most other millstuffs was in favor of the consumer, although quotable rates were without radical change.

Bran, ₱ ton	13 00@14 00
Middlings	16 00@19 00
Shorts, Oregon	13 00@16 00
Barley, Rolled	16 50@17 50
Cornmeal	23 50@24 00
Cracked Corn	25 00@ ——

Seeds.

Mustard Seed is still arriving in moderate quantities, mainly on previous purchases and en route East. Some Flaxseed is being received from the North, representing as a rule deliveries on contracts. Quotable values remain as last noted, but for most kinds are largely nominal, in the absence of any noteworthy transactions.

	Per ctl.
Mustard, Trieste	3 25@3 50
Mustard, Yellow	4 50@4 75
Flax	2 00@2 25
	Per lb.
Canary	3½@4
Rape	3 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utab	8½@9

Bags and Bagging.

This is naturally an inactive period in the Bag trade and the present season is no exception. That there will be anything of consequence doing in this line for a month or two is not probable. In the meantime values are not likely to be very clearly defined.

Calcutta Grain Bags	6½@ 7
San Francisco Grain bags, 22x36, spot	6½@ 7
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@28
Gunnies	—@12½
Bean bags	4½@ 5½
Fruit sacks, cotton	6½@ 7

Hides, Pelts and Tallow.

The hide market displays much the same strong tone as for some time past, owing to light stocks. Pelts are in fair request at unchanged rates. Tallow market is not showing much activity, but where transfers are effected, they are at practically same figures as have been lately current and as previously quoted.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	*Culls.*
Heavy Steers, over 56 lbs	11½@—	10½@—
Medium Steers, 48 to 56 lbs	10½@—	9½@—
Light Steers, under 48 lbs	10 @—	9 @—
Heavy Cow Hides, over 50 lbs	10½@—	9½@—
Light Cow Hides, under 50 lbs	10 @—	9 @—
Wet Salted Kip	10 @—	9 @—
Wet Salted Veal	10 @—	9 @—
Wet Salted Calf	11 @—	10 @—
Dry Hides	18 @—	14 @—
Dry Kip and Veal, 11 to 16 lbs	17 @—	13 @—
Dry Calf, under 4 lbs	18 @—	15 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	1 00 @1 25	
Pelts, medium, per skin	70 @ 90	
Pelts, short wool, per skin	35 @ 60	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	
Deer Skins, thin winter	— @ 10	
Elk Hides	10 @ 12	
Tallow, good quality	4½@ 5	
Tallow, No. 2	4 @ 4½	
Goat Skins, perfect	30 @ 37½	
Goat Skins, damaged	10 @ 20	
Kid Skins	5 @ 10	

Honey.

With supplies light and mostly in the hands of jobbers, business is necessarily restricted to small operations. Previous values are being maintained, and there is nothing to warrant anticipating the development of any weakness during the halance of the season.

Extracted, White Liquid	7½@ 8
Extracted, Light Amber	7 @ 7½
Extracted, Amber	5 @ 5½
White Comb, 1-lb frames	11½@12½
Amber Comb	8 @10

Beeswax.

Market continues to be very lightly stocked. There is no lack of demand, and desirable qualities readily command full current rates.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Beef was in fair receipt and sold at generally unchanged figures, although market for the ordinary run of offerings could not be termed particularly firm. Veal continued to command comparatively high prices. The market for Mutton remained about as last quoted, the supply being sufficient for the demand. Lamb was not in excessive receipt. Hog market was moderately firm for small sizes for immediate use, but for large porkers the tendency of prices was to lower levels.

Beef, 1st quality, dressed, net ₱ lb	7	@	7¼
Beef, 2d quality	6½	@	6¾
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wethers	7	@	7½
Hogs, hard grain fed, medium	5⅝	@	5¾
Hogs, small, fat	5⅝	@	5¾
Hogs, large hard	5	@	5¼
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ₱ lb	8	@	9½
Veal, large, ₱ lb	8	@	9
Lamb, spring, ₱ lb	8	@	8½

Poultry.

Owing to heavy arrivals of Eastern poultry the market for most kinds of domestic has ruled weak, choice Broilers and Turkeys in fine condition being about the only exceptions. Market for full-grown Chickens was especially against sellers, Broilers in first-class condition selling at about same figures as Hens and Roosters. Young Ducks and Young Pigeons were not plentiful.

Turkeys, Dressed, ₱ lb	14	@	17
Turkeys, live hens, ₱ lb	14	@	15
Turkeys, live gobblers	14	@	15
Hens, Cal., ₱ doz	3 00	@	4 00
Roosters, old	3 50	@	4 00
Roosters, young, (full-grown)	3 50	@	4 00
Fryers	3 50	@	4 00
Broilers, large	3 75	@	4 00
Broilers, small	3 25	@	3 50
Ducks, ₱ doz	4 00	@	5 50
Geese, ₱ pair	1 75	@	2 00
Goslings, ₱ pair	1 75	@	2 00
Pigeons, Old, ₱ doz	1 00	@	—
Pigeons, Young	1 75	@	2 00

Butter.

The market for fresh butter does not give evidence of any special firmness, but for strictly select qualities prices were fairly well sustained, such stock being in only moderate supply and very fair demand. Defective qualities were plentiful and market for same favored buyers. In packed descriptions there is little doing. Present supplies of packed are principally tub butter.

Creamery extras, ₱ lb	25	@26
Creamery firsts	24	@25
Creamery seconds	23½	@24
Dairy select	23½	@24½
Dairy seconds	19	@22
Dairy, soft and weedy	—	@—
Mixed store	14	@16
Creamery in tubs	18	@21
Pickled Roll	—	@—
Firkin, Cal., choice to select	19	@22
Firkin, common to fair	16	@18

Cheese.

High grade new, just a few weeks from the press, is in very limited supply, and in a small way sells above quotable rates. Well seasoned cheese is in sufficient stock for immediate requirements, but supplies are in comparatively few hands and are being in the main steadily held.

California fancy flat, new	12	@—
California, good to choice	10½	@11½
California, fair to good	10	@11
California Cheddar	—	@—
California, "Young Americas"	10½	@12½

Eggs.

The demoralized condition of the egg market, noted in last review, continued into the current week. Prices for fresh were cut down 2½@5c from figures current at date of last issue. This was not generally anticipated. One great drawback to the development of any firmness is that most retailers and large consumers are more or less interested in cold storage eggs, and in their desire to clean up these held stocks they have almost wholly neglected the fresh article. As soon as the trade gets fairly started on fresh product, accumulations of same will soon clean up and there will likely be some recovery in values.

California, select, large white and fresh	32½	@—
California, select, irregular color & size	27½	@30
California, good to choice store	22½	@27½
Eastern, as to section and grading	20	@22½
Eastern, cold storage	17	@20

Vegetables.

Winter vegetables are not making much of a display at present. Onions are in only moderate supply, and for choice to select the market is firm, some sales being made above top quotations. In the way of spring vegetable, present supplies are mainly from Los Angeles section, receipts being of fair volume and averaging well as to quality.

Beans, String, ₱ lb	5	@	6
Beans, Lima, ₱ lb	—	@	—
Cabbage, choice garden, ₱ 100	50	@	60
Cauliflower, ₱ doz	50	@	—
Cucumbers, Los Angeles, ₱ box	1 00	@	—
Egg Plant, ₱ lb	8	@	10
Garlic, new, ₱ lb	3	@	4
Musbrooms, Buttons, ₱ lb	15	@	—
Mushrooms, wild, ₱ box	5	@	10
Okra, Green, ₱ box	—	@	—
Onions, Yellow, Cal., good to choice	90	@	1 10
Onions, Oregon, ₱ cental	1 00	@	1 25
Peas, Sweet, Garden, ₱ lb	5	@	7
Peppers, Green Chile, ₱ lb	5	@	6
Peppers, Bell, ₱ large box	—	@	—
Rbubarb, ₱ box	75	@	1 00
Squash, Marrowfat, ₱ ton	10 00	@	15 00
Squasb, Summer, ₱ box	75	@	1 00
Tomatoes, Los Angeles, ₱ box	75	@	1 00
Tomatoes, Bay, ₱ crate	1 00	@	1 25

Potatoes.

The potato market has been without important change since last report. Choice to select qualities continued in very moderate supply, and such were in fair request, commanding full current rates more readily than did common qualities the lower figures current on the latter. Poor stock was in heavy supply, including both California and Oregon product. Sweets sold at about same range as previous week, but supplies were more than ample for the demand.

Burbanks, River, ₱ cental	50	@	75
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	70	@	1 10
Burbanks, Oregon	60	@	1 10
River Reds	—	@	—
Burbanks, Salinas, ₱ cental	1 00	@	1 25
Early Rose	85	@	95
Garnet Chile	1 00	@	1 15
Sweet River, ₱ cental	75	@	1 00
Sweet Merced	1 00	@	1 15

The Fruit Market.

Fresh Fruits.

In the market for fresh deciduous fruits, Apples are at present the leading and almost the only feature. There is no scarcity of the lower grades, in fact, of common qualities there is really a glut. This inferior stock is in very limited demand, even at low figures. Crowding it to sale does not have much other effect than to still further demoralize the market. With prices already low, the forcing process is apt to do the selling interest more harm than good, causing many buyers to proceed more slowly than they ordinarily would, and enabling them to dictate still lower figures than they would willingly pay if this crowding of supplies to sale was not attempted. In the matter of choice to select Apples, however, instead of being a surfeit there comes nearer being a dearth. High-grade Spitzenberg or equally desirable fruit is selling up to $1.50 per box, although this cannot be termed a wholesale figure. Market for fancy Apples is decidedly firm and is likely to so continue throughout the season. Pears are in light stock, but, as with Apples, the most positive inquiry is for fine table fruit, such as select Winter Nelis. Sales of the latter were made in a small way up to $2 per box, the quality being very superior. Persimmons continued to be offered quite freely, as compared with the demand, and prices kept at a low range, about the same as preceding week. Grapes were in greatly reduced stock, and while there was no very active demand, desirable qualities brought materially improved figures. For some late Verdeis in prime order $1 per crate was realized. In the line of Berries other than Cranberries the display was so light and the quality in the main so poor that the fruit was hardly quotable. Cranberries were in heavy supply and market weak for Eastern at $7@9 per barrel. Oregon were held at $1.50@2.00 per box.

Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ₱ 50-lb. box	75	@	90
Apples, common to fair, ₱ 50-lb. box	35	@	60
Apples, Lady, ₱ box	1 00	@	2 00
Grapes, Black, ₱ crate	—	@	—
Grapes, Muscat, ₱ crate	—	@	—
Grapes, Tokay, ₱ box, 50@75c; ₱ crate	75	@	1 00
Grapes, Cornichon, ₱ crate	75	@	1 00
Grapes, Isabella, ₱ crate	—	@	—
Pears, Winter Nelis, ₱ box	1 00	@	1 50
Pears, cooking varieties, ₱ box	40	@	65
Persimmons, ₱ 2-layer box	40	@	50
Plums, ₱ box	—	@	—
Pomegranates, ₱ box	—	@	—
Quinces, ₱ box	—	@	—
Raspberries, ₱ cbest	—	@	—
Strawberries, Longworth, ₱ cbest	—	@	—
Strawberries, Large, ₱ chest	2 00	@	3 00
Wbortleberries, ₱ lb	4	@	6

Dried Fruits.

A very quiet market is being experienced for cured and evaporated fruits, with scarcely anything doing in a wholesale way or in offerings from first hands. Neither are the orders large or numerous which are at present being filled by jobbers. Trade in this line is almost invariably dull just prior to the holidays, making it a poor market to sell on. Dealers who are showing any inclination to buy are on the still-hunt for bargains, and are principally after Pears and Peaches of select quality, not caring to take these at other than decided bargains. A good demand is anticipated for these goods in the Spring, and the present inquiry is largely speculative. When select qualities of only a few kinds of fruit are wanted, and these only at low figures, it can be readily inferred that the general market is in unsatisfactory shape. Quotations remain nominally about as last noted, in the absence of any noteworthy transactions, and the payment of these figures would be necessary if there were any demand worth mentioning, but if holders insist on realizing at present, they find it necessary to accept lower values. In fact, most jobbers and retailers have of such kinds as are now obtainable all the stock they care to carry into the new year. A more active jobbing trade is looked for later on, and with it a more satisfactory market is likely to be experienced for offerings from first hands. Beyond Prunes and moderate quantities of Peaches and Apples, there is not much dried fruit outside of the stocks carried by the jobbing and retail trade. Prunes are mostly medium to large sizes, anything smaller than 70's being impossible to obtain in wholesale quantity.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12
Apricots, Royal, fancy	12½	@	13
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½	@	8
Apples, 50-lb. boxes, rings, pressed, good to choice	6	@	7
Figs, White, fancy pressed	6½	@	7½
Peaches, unpeeled, good to choice	5	@	6
Peaches, unpeeled, fancy	7	@	7½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	9	@	10
Pears, balved, unpeeled Bartletts	6½	@	8
Pears, quartered, unpeeled Bartletts	6½	@	7½
Plums, Black, pitted	6½	@	7½
Plums, White and Red, pitted	7	@	8
Prunes, in sacks, 40—50's	4	@	4½
50—60's	3½	@	3¾
60—70's	3¼	@	3½
70—80's	3	@	3¼
80—90's	2½	@	2¾
90—100's	2	@	2½
110—130's	—	@	—
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	2¾	@	—
4 sizes San Joaquin and Northern	2½	@	2½
Prunes, Silver	4	@	7

COMMON SUN-DRIED.

Apples, sliced	4	@	5
Apples, quartered	4	@	5
Figs, Black	3	@	4
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

Late advices from New York by mail furnish the following review of the dried fruit market in the East:

The demand for evaporated apples has been light this week, and, with continued unfavorable advices from primary sections, market has ruled weak with prices showing a further decline; prime have sold from 7@7½c, but stock is offering from primary sections for prompt delivery at still lower figures. Choice and fancy apples are working out in a jobbing way at about late prices, though outside figures are extreme. Offerings of sun-dried apples are moderate, and desirable grades are held steadily. Chops and waste continue weak and favoring buyers in price. Small fruits are scarce and generally held high, but demand limited. California fruit has a good outlet.

Apricots, Cal. Moorpark, 1899, per lb	15	@	17½
Apricots, Cal. Royal, 1899, per lb	13	@	14
Peaches, Cal., 1899, peeled, per lb	18	@	22
Peaches, Cal., 1899, unpeeled, in boxes, lb.	8½	@	9
Peaches, Cal., 1899, unpeeled, in bags, lb.	7¾	@	8¾
Prunes, Cal., 1899, per lb	3½	@	7

Raisins.

No changes are reported in values by the Growers' Association. Present offerings of Muscatels are principally Pacifics and Orientals, or second and third grade Raisins, which are by no means in heavy supply, and in these there is a fair movement at current rates. Stocks of high grade bleached Sultanas are fairly liberal, this description not having met with as good sale as was anticipated, largely due to liberal importations East of the foreign article.

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ₱ box	$3	00	@—
Do do 5-crown, ₱ box	2	50	@—
Do do 4-crown, ₱ box	2	00	@—
Do do 3 crown, ₱ box	1	60	@—
Do do 2-crown, ₱ box	1	50	@—
Valencia layers, ₱ 20-lb box		80	@1 00

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ₱ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, seedless	5	@	—

Pacifics.—2-crown loose Muscatel, 5¼c; 3-crown, 6c; 4-crown, 6½c; seedless, 4¾c.

Orientals.—2-crown loose Muscatel, 4¾c; 3-crown, 5½c; 4-crown, 6c.

(Above prices for loose raisins are for 50-lb. boxes.)

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ₱ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ₱ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Orange market has continued to incline in favor of buyers, with offerings tolerably heavy and much of the fruit unripe. The quality is showing improvement, however, as is also the demand at the easier rates prevailing. Lemons are in sufficient stock for all current needs, values remaining barely steady for the ordinary run of offerings, the market for other than most select qualities lacking in firmness. There were fresh invoices of Limes, asking rates for the same remaining unchanged.

Oranges—Navels, ₱ box	1 75	@	2 50
Cal. Seedlings	1 00	@	1 50
Cal. Tangerine, ₱ box	—	@	—
Grape fruit, ₱ box	1 00	@	2 50
Lemons—Cal., select, ₱ box	3 00	@	3 50
Cal., good to choice	2 00	@	2 50
Cal., common to fair	1 00	@	1 50
Limes—Mexican, ₱ box	4 00	@	4 50
Cal., small box	75	@	1 25

Nuts.

With holiday requirements about filled, the demand for both Almonds and Walnuts is now slow, and current quotations are more in accord with the views of sellers than of buyers. Shelled Almonds are especially difficult to move in noteworthy fashion or at satisfactory rates. The output of Shelled Almonds this season was comparatively large and most dealers are amply stocked. Peanut market is ruling steady, with very moderate supplies.

California Almonds, shelled	17	@20
California Almonds, paper shell, ₱ lb	11	@12
California Almonds, soft shell	10	@11
California Almonds, hard shell	6	@ 7
Walnuts White, paper shell	—	@—
Walnuts White, soft shell	11	@11½
Wainuts White, Cal., standard	9½	@10½
Chestnuts, Cal. Italian	10	@12
Peanuts, Cal., fair to prime	4½	@ 5
Peanuts, Eastern band-picked	6	@ 7½
Pine Nuts	5	@ 6

Wine.

Market is practically the same as last noted. There is virtually nothing doing in a wholesale way or in wine in first hands. New wine is not yet in condition to be marketable. On dry wines from one to three years old, quotable values remain nominally 15@20c per gallon, as to quality and quantity, San Francisco delivery. Receipts of wine in November were 1,052,150 gallons, being 592,100 gallons less than arrived in Nov., 1898, and 264,181 gallons less than in Nov., 1897. Shipments by sea for the week include 39,189 gallons per Panama steamer, the larger portion being destined for New York; 5,279 gallons per sailing vessel B. F. Packard for New York; and 2,773 gallons per brig Galilee for Society Islands.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

R. Hall's Pulmonary Balsam,
For COUGHS and COLDS.
J. R. GATES & CO., Druggists,
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MOORE, FERGUSON & CO.
WOOL, GRAIN, FLOUR
—AND—
General Commission Merchants,
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Members of the San Francisco Produce Exchange.
☞Personal attention given to sales and liberal advances made on consignments at low rates of interest.

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PATENT AGENCY.
330 Market Street, San Francisco, Cal.

LEE D. CRAIG,
Notary Public and Commissioner of Deeds,
316 MONTGOMERY STREET,
Bet. California and Pine, SAN FRANCISCO, CAL.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	192,150	2,521,244	2,170,411
Wheat, ctls	56,967	1,902,376	1,527,358
Barley, ctls	157,730	3,586,547	783,144
Oats, ctls	25,705	466,391	457,540
Corn ctls	5,660	60,775	79,990
Rye, ctls	2,850	80,107	15,180
Beans, sks	7,297	266,472	271,213
Potatoes, sks	36,839	596,591	581,669
Onions, sks	5,731	105,519	108,796
Hay, tons	2,737	88,352	76,663
Wool, bales	530	34,712	28,346
Hops, bales	224	6,557	10,093

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	108,028	1,460,511	1,359,372
Wheat, ctls	56,621	1,547,289	825,738
Barley, ctls	257,016	2,850,296	247,291
Oats, ctls	360	23,583	12,420
Corn, ctls	262	8,472	9,118
Beans, sks	11	11,682	67,259
Hay, bales	250	49,238	32,350
Wool, lbs	71,308	2,982,780	1,306,072
Hops, lbs	9,977	556,441	1,026,162
Honey, cases	....	3,053	4,411
Potatoes, pkgs	728	37,893	25,507

California Dried Fruit at New York.

NEW YORK, Dec. 13.—California dried fruits; Quiet and barely steady. Evaporated apples, common, 6@6½c; prime wire tray, 6¾@7c; choice, 7¼@8c; fancy, 8½@9c.
Prunes, 3½@8c.
Apricots, Royal, 13@15c; Moorpark, 15@18c.
Peaches unpeeled, 7½@10c; peeled, 20@22c.

Fine Poultry.

Among the records made at the Oakland Poultry Show none stand out so prominently as the success scored by E. Van Every, proprietor of the Santa Terera poultry farm, with his fine exhibit of White Leghorns, Buff Cochins, etc.

In the White Leghorn class there were 107 birds entered, including eight breeding pens.

Mr. E. Van Every made but nine entries and had the honor of carrying off about all the first awards, viz.: 1st on pen, 1st on cock, 1st on hen, 1st on pullet; 2nd on cockerel, 3rd on cockerel, 3rd on hen, H. C. on cock.

The first hen won with a score of 95¼ and the first pullet 95¾, and were two of the highest scoring birds in the show. The two cockerels were quite young and were cut for size. The White Leghorns of the Santa Teresa poultry farm are large pearly white, with fine station, and are a type evolved by careful selection through a series of years, and are a strain purely Californian, as no high priced Eastern stock has been used to bring them up to their present state of perfection.

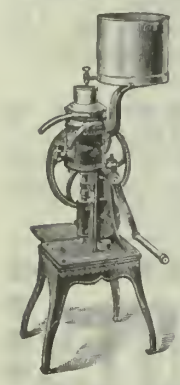
The Buff Cochins, which are of the full feathered type, also came in for a share of the honors, winning 1st on pen, 1st on hen, 2nd on cockerel and some smaller awards.

PEQUABUCK, CONN., July 29, 1890.

Dr. S. A. Tuttle, Dear Sir.—I have these goods introduced on the Trotting Park and a number of customers outside. They are the best remedies I have ever seen, and that is the opinion of all who have used them. I have cured eight cases of curb and have not had a single failure.

Very respectfully, L. P. GOODWIN.

NEW 20TH CENTURY CREAM SEPARATORS



Sept. 1st marked the introduction of the Improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators and these newest "Alpha" disc machines are simply unapproachable by anything else in the shape of a cream separator. Overwhelming as has been the conceded superiority of the De Laval machines heretofore their standard is now raised still higher and they are more than ever placed *in a class by themselves* as regards all possible competition. Send for new catalogue.

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RANDOLPH & CANAL STS., CHICAGO | 74 CORTLANDT STREET, NEW YORK.

Relation of Good Roads to the Farming Interests.

By C. W. SILVESTER at the Farmers' Institute at Geyserville, Nov. 18, 1899.

It will not be my purpose to tell how to make good roads. I will leave that to some one who understands the matter better. Every one knows when they walk or drive over good roads, whether they are rough or smooth, steep or level, muddy or dry, and whether a load pulls easy or hard.

In marketing produce it makes a difference whether a farmer can draw a ton or four tons with a span of horses. It is an actual fact that a single team of two horses can pull as much over some of our mountain grades as they can from Cloverdale to Healdsburg, or Santa Rosa. If our farmers could draw four tons of produce from Cloverdale to tide water at Petaluma, with two horses, or eight with four, or twelve with six, our railroad would not have such a monopoly for carrying produce as they do. Everything that helps the farmer helps all kinds of industry, and vice versa, so if I diverge somewhat from the direct line of thought, all will be tending to show how good roads help the farmer.

All will admit it is easier to go around a hill than over it. This seems to have been forgotten or lost sight of in the past. I believe that all county roads ought to be put on as even a grade as a railroad.

In enjoying a pleasure ride the pastime is made much more pleasant if the roads are fine, smooth and level, and you come home feeling that your section of country is advancing in prosperity.

A bicycle rider traversing your county or township is first taken with your good roads, and then begins to look at your farms and houses, and if he has a desire to change his residence he is more apt to settle in your midst than where the roads are poorer. And also your own people will ride more wheels and thus help the maker of bicycles. Horses will keep in better condition, wagons will wear longer, and a man's life will in all probability be prolonged, for our physicians say anger tends to shorten one's days.

Good roads running by farmers' homes, as well as the homes of those who are not farmers, put the desire into the minds of the residents to have their fences, yards and houses in keeping with the roads, and thus help a community. In sections of France and Germany are roads which are held up as models the world over, and without doubt the people in those sections are more contented, more prosperous, than in any other. Consider the advance made when the cattle trail becomes a passable wagon road, and I believe the advance will be as much greater in having good roads as it is from a cattle trail to passable roads.

Good roads, by bringing more people into a community, will increase our school attendance, give us more school money to employ more teachers, and thus give our children a better and thorough education.

As a means of rapid communication, especially where there are no railroads, good roads are very essential. People living in remote districts and having poor roads can never seem to get anywhere, when with good roads getting to town or visiting friends would seem an easy matter.

The time is not far distant, nay it is seemingly at hand, when a party whom you are trying to induce to invest in your locality will inquire as particularly as to the condition of your roads as he or she will about the quality and quantity of different kinds of produce you are growing.

It may not be out of place for me to say, in conclusion, what my ideas of good roads are. In the valleys they should be as level as possible, with no perceptible grades, avoiding all hills, well turnpiked to carry off all water from rains, so as to dry quickly when storms cease, and be well macadamized to prevent dust and cutting.

In the mountains the grades ought to be put on an even grade and not too steep, the length of road being no object if the traveling is made easy on them. The extra cost of making such roads, would soon be paid for by increasing the facilities for marketing produce over them.

A Great Stock Show Next Year.

The different breeding associations which were in session in Chicago last week, without exception, made liberal appropriations for the purpose of being represented at the International Live Stock Exposition, which will be held in Chicago about this time next year. The Aberdeen Angus, the American Shorthorn and the American Hereford Cattle Breeders' Associations have each appropriated $5000 to be expended in premium breeding stock. The Red Polled, the Polled Durham and the Galway Associations have appropriated $1000 each, and the Cotswold Sheep Record Book Association $500 for the purpose indicated.

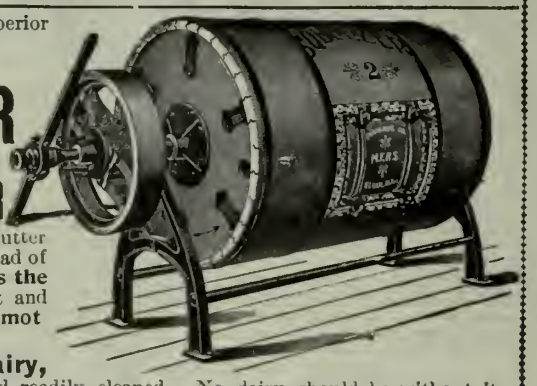
The live stock and other commercial interests of Chicago expect to add $50,000 to $75,000 to the sums given by the Association, to be expended in premiums for fat stock at the exposition. The exposition will be held in the newly erected Dexter Park amphitheater, at the Union stock yards, the largest and most complete building of its kind in the world, in and around which 4000 animals can be comfortably accommodated.

After a sharp debate the American Live Stock Association went out of existence by merging into the larger though newer organization, the National Live Stock Association.

The Machine that will Build a Butter Trade.

Because it will make a superior quality of butter.

THE **SQUEEZER** COMBINED **CHURN AND WORKER**



squeezes the water and butter milk out of the butter instead of grinding it. **It preserves the grain,** distributes the salt and color evenly and **prevents mottles.** It is

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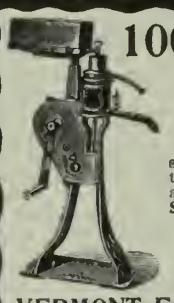
and is easily operated and readily cleaned. No dairy should be without it.

Will do Exhaustive Churning at any Temperature.

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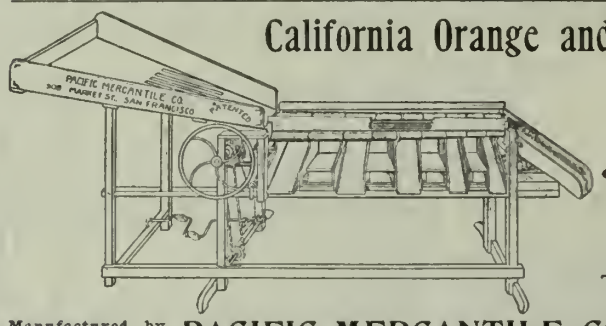
but that is what many users of the
IMPROVED UNITED STATES SEPARATOR
are receiving on the money invested.

It is nothing unusual to receive letters from users of the U. S. stating that it has produced enough more cream in a year to pay for the machine, to say nothing of the improved quality of the product and the saving of time and labor. **Our 1900 or "New Century" Separators, with increased capacities, are better than ever.**

We also manufactnre
A Complete Line of Dairy and Creamery Apparatus.
Write for our latest illustrated catalogues,—Free.

VERMONT FARM MACHINE CO., - Bellows Falls, Vt.

California Orange and Lemon Grader.



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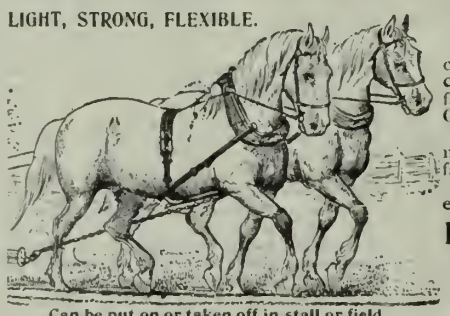
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BAKER'S TRACELESS HARNESS

LIGHT, STRONG, FLEXIBLE.



Can be put on or taken off in stall or field.

NO TRACES. NO WHIFFLETREES.

Draft absolutely direct, just as in common harness. Sits easy; **can't chafe or gall.** Perfect for all low down farm or field work. Invaluable in the **Orchard, Vineyard or Hopyard.**

Horses have perfect independence of movement. Used by the best practical farmers and orchardists in the country.

Try it; if not satisfied **return at our expense,** and money will be refunded.

Price, $14.50 cash with the order.

We **prepay freight** to nearest railway station.

In ordering give **size of collars** used.

B. F. BAKER & CO., Burnt Hills, N. Y.

Cordova Wax Candles



Nothing else adds so much to the charm of the drawing room or boudoir as the softly radiant light from CORDOVA Candles. Nothing will contribute more to the artistic success of the luncheon, tea or dinner. The best decorative candles for the simplest or the most elaborate function—for cottage or mansion. Made in all colors and the most delicate tints by **STANDARD OIL CO.** and sold everywhere.

The McCormick is "The Best in the World."

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HAVE REMOVED THEIR **Machine Works**



TO 183-185-187 FREMONT STREET,

Where, with Enlarged and Increased Facilities, they are better than ever prepared to do

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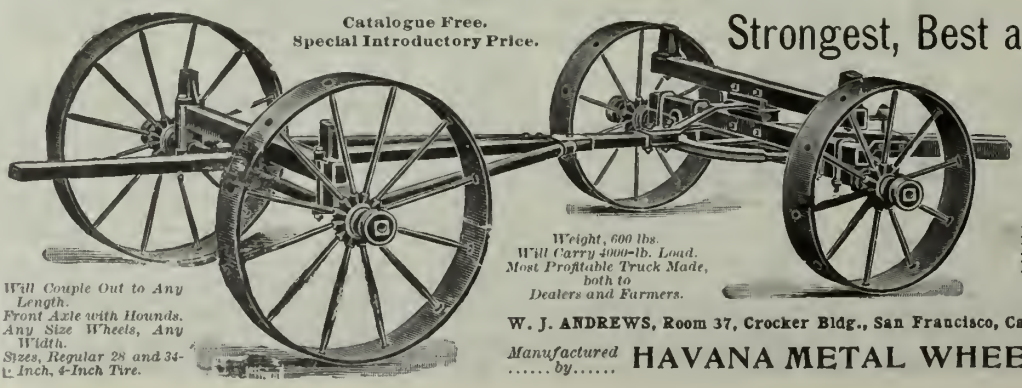
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Also Marine Engines, Ship and Steamboat Work, Pipe Cutting, General Jobbing and Repairing.

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Special Introductory Price.

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All Steel Except Tongue and Coupling Pole.

LOG : : : : :
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PLATFORM **TRUCK.**

Will Couple Out to Any Length. Front Axle with Hounds. Any Size Wheels, Any Width. Sizes, Regular 28 and 34-in. Inch, 4-Inch Tire.

Weight, 600 lbs. Will Carry 4000-lb. Load. Most Profitable Truck Made, both to Dealers and Farmers.

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Manufactured .....by..... **HAVANA METAL WHEEL CO., Havana, Ill.**

Stock Diseases in Fresno County.

Fresno County Veterinary Inspector Graham, in his December report, gives the following interesting items:

Upon notification I inspected the place of J. C. McCullough, near Kingston, and found that he had four head of cattle which had died of Texas fever and that others were affected. I quarantined the place.

W. H. Bradley, two miles and a half south of Selma, on the McCall road, reported a diseased horse on his ranch. I found the animal was affected with glanders. The owner of the horse—Mr. Bennett—was in the mountains, but I hunted up some of his friends, who killed the horse and buried the carcass.

In serving notice of quarantine on I. W. Warren and his land, where he has calves affected with hoose or animal lung worm, he told me that he thought he could save about 200.

R. E. Hall, south of Fowler, had a number of cattle infected with Texas fever. Seven head died on his place. The disease was brought in by cattle shipped from the coast and put on Mr. Hall's pasture. They were left there long enough for the ticks to fall off. They hatched out and the young ticks got on Mr. Hall's cattle and gave them the disease. I think Fresno county should have some protection against outside counties shipping into our county infected and diseased cattle. Fresno county is noted for her fine pasture land of alfalfa and natural grasses on Kings river bottom, and, when other counties get short of pasture in dry seasons, they ship their cattle in here, carrying diseases in with them. We may never get rid of anthrax, which is spreading to an alarming extent. There is more of it this year than I have ever seen before. It affects cattle, horses, hogs, sheep and man. Jos. Roskono and his wife took it last August and came near dying. It is one of the most dreaded diseases that cattlemen have to contend with. The spore of the disease has been shown to lie in the ground for fifteen or twenty years and then break out.

Wagons With Broad Tires.

It has been conceded that wagons with broad tires take more horse-power to pull than wheels with narrow tires, all other things being equal. On a smooth, brick roadway, or on a properly made macadam with a smooth surface, as often noted in the Old World, the tractive force certainly favors the narrow tires. This has been demonstrated over and over, and accords with mechanical principles. The Missouri Agricultural Experiment Station now presents a statement that this is all wrong. Broad tire wheels, they say, have the lightest draughts. Surely the tests must have been made when other things were not equal.—Meehans' Monthly for December.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING NOVEMBER 28, 1899.

638,131.—Furnace—J. B. Archer, Oakland, Cal.
638,194.—Fishing Reel—A. J. Arnold, National City, Cal.
637,759.—Pump Valve—T. J. Barbour, S. F.
638,168.—Heater—A. W. Bessey, Orange, Cal.
638,087. — Tobacco Prier—D. M. Bonar, Plainview, Or.
637,763. — Flower Pot—Rua E. Burke, Mount Tabor, Or.
637,986.—Rotary Engine—J. H. Darragh, Oakland, Cal.
637,927.—Gate Opener—M. E. Fassett, Ione, Cal.
637,960.—Railway Switch—S. L. Foster, S. F.
637,989.—Weighing Machine—E. Hanak, S. F.
637,783.—Animal Trap—J. Herfert, Tucker, Wash.
638,116. — Pruning Tool—Herrick & Lonergan, Los Angeles, Cal.
637,990.—Screwdriver and Holder—G. Hoepner, S. F.
637,992.—Electric Log Recorder—L. T. Jones Jr., S. F.
638,182.—Stop Mechanism—F. T. Leilich, S. F.
637,880.—Saw Handle—J. M. Mariner, Loyalton, Cal.
638,200—Loom—J. H. Northrop, Tustin, Cal.
637,821.—Bicycle Brake—H. Paulson, Tacoma, Wash.
637,974.—Knife Cleaner—A. Rantala, Navarro, Cal.
638,142.—Valve—P. H. Reardon, S. F.
637,997.—Hinged Telescopic Box—C. J. Russell, Santa Maria, Cal.

NOTE.—Plain and Certified Copies of U. S. and Foreign patents obtained by Dewey, Strong & Co., by mail or telegraphic order. American and Foreign patents secured, and general patent business transacted with perfect security, at reasonable rates, and in the shortest possible time.

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Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s Scientific Press U. S. and Foreign Patent Agency, the following are worthy of special mention:

Automatic Weighing Machine —E. Hanak, San Francisco, Cal., assignor to the Union Scale & Manufacturing Co., Sacramento, Cal. No. 637,989. Dated Nov. 28, 1899. This invention is designed to weigh materials such as coffee and other granular or powdered substances which will flow by gravitation. It consists in the connection with a source of supply of a measuring chamber into which the material flows by gravitation, said chamber having means for adjustment whereby its size can be regulated according to the density of the material to be measured. It is provided with alternately closing and opening inlet and discharge gates above and below, a weighing receptacle into which the material is discharged in bulk from the measuring chamber in quantities less than the exact amount to be weighed. In conjunction with this is a chute with controlling gate through which a small quantity of the material is allowed to flow after the main portion has been delivered until the scale which carries the weighing receiver tilts. A controlling electromagnetic device is actuated by this tilting, and incidentally closes the supply gate, and at the same time a discharge gate at the bottom is opened and the apparatus returns to its normal position. This breaks the electric circuit and the discharge gate is closed by a counterbalance weight and the supply gate is again opened to admit a new supply to the machine, which thus continues to operate automatically.

Electric Log Recorder.—L. T. Jones, Jr., San Francisco, Cal. No. 637,992. Dated Nov. 28, 1899. The object of this device is to transmit a record and registration of a log used in determining the speed of vessels to the pilot house, chart room, or other desired point or points. It consists of a make and break mechanism carried by the log, a distant counting mechanism with an electro magnet and connections between it and the make and break mechanism, ratchet wheels, pawls, and a spring-pressed fulcrumed lever whereby the indicators are caused to move over suitably graduated dials or surfaces from which the speed of the vessel can be ascertained at any time.

Knife and Fork Cleaner. — A. Rantala, Navarro, Cal. No. 637,974. Dated Nov. 28, 1899. The object of this invention is to provide a means for rapidly cleaning knives, forks and similar articles. It consists of a roller revolubly mounted having a surface adapted to retain and carry cleaning material, an adjustable support for the article to be cleaned, mechanism by which it is advanced and retained in contact with the cleaning roller, and a means for disengaging and returning it after it has been cleaned.

Screwdriver and Holder —George Hoepner, Sandwich, Ill. No. 637,990. Dated Nov. 28, 1899. The object of this invention is to provide a device for holding screws while they are being inserted and driven. It consists essentially of a clamp which is adapted to seize and hold the shank of the screw just below the head, a screwdriver with means for adjusting it with relation to the clamp, so that its point engages the slot in the screw-head so that the screw is held straight and can be entered and driven to a certain point, when the clamp mechanically disengages from the shank and allows the screwdriver to advance between the clamping jaws until the screw is properly seated.

Rotary Engine —J. H. Darragh, Oakland, Cal., assignor of three-fourths interest to J. H. Thompson of same place. No. 637,986. Dated Nov. 28, 1899. This invention relates to improvements in rotary engines in which a piston fixed to the periphery of a disk mounted upon a shaft travels in an annular channel in the casing, with means for applying the pressure of the steam to continuously propel the piston and rotate the disk. An abutment is provided which allows the piston to pass and incidentally closes behind it, this abutment being in the form of a rotary segment, the periphery of which contacts with the periphery of the piston-carrying disk at all times, except when the segmental portion momentarily coincides with the inner periphery of the case while the piston is passing. In connection with this are valves with means for adjusting them to admit the steam or other medium upon either one side or the other of the abutment to reverse the motion of the engine, with valves by which the exhaust is also correspondingly changed.



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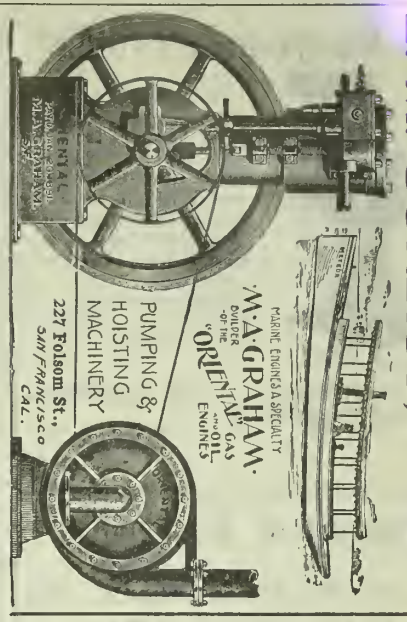
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Worthy Master Worthen's Trip to the National Grange.

To the Editor:—We took the Overland Limited at Oakland on Thursday morning, Nov. 9th, and made the trip to Springfield, Ohio, in about three and one-half days, arriving there on Sunday evening.

For the convenience and enjoyment of the thirty-third annual session of the National Grange the Commercial Club and the various manufactories had made ample preparations. Everything was done that the people of an enterprising city could do for our entertainment. The Industrial Exposition was a success. Four hundred Champion reapers are manufactured in ten hours, or one completed every one and one-half minutes during the ten working hours of the day. Gov. Bushnell told us that about 3000 carloads of machinery were shipped from Springfield in one year. We went through the shops, then visited the Masonic Home at Logenda. That institution is magnificent. Everything is done to make its inmates comfortable. We were informed that the buildings and grounds cost $270,000.

Monday evening we made a short address to the Ohio State Grange. We improved the opportunity to speak of California and her products and called particular attention to a few boxes of attractive prunes, peaches, apricots, cherries and pears which we had on exhibit at the Exposition. We had the pleasure of giving cards, circulars and verbal information to scores of eager inquirers.

We got acquainted with Bro. Holman, who is the boss co-operative worker in the Grange in Ohio. A beginning has been made in bringing producer and consumer in direct contact. Your representatives were each on three different committees. Thus California was heard in the counsels of six committees. The Worthy Matron made herself useful to the National Secretary.

It was my lot to make the report of the special committee on trusts. The National Grange was opened in perfect form at 11 o'clock A. M. Wednesday morning, W. M. Aaron Jones in the chair, with most of the officers present and a large attendance of visitors, and Committee on Credentials was appointed. At 2 P. M. the Master's address was delivered, which I enclose, and hope you will print as much as you can find space for. [We hope to take some paragraphs when local Grange news is less pressing.—Ed.]

We arrived at home Sunday evening, tired and with severe colds, but full of courage and enthusiasm. We came back by the Sunset route. We will continue in the next number.

G. W. Worthen, W. M.

San Jose, Cal.

Elk Grove Grange.

To the Editor:—The following is a list of the newly-elected officers of Elk Grove Grange No. 86: Master, Levi S. Dart, Elk Grove; Overseer, Irwin Woodard, Elk Grove; Lecturer, Dr. James Caples, Elk Grove; Steward, Samuel Wheelock, Arno; Asst. Steward, Frank Schirmer, Sheldon; Chaplain, Mrs. Mary Kerr, Elk Grove; Treasurer, F. W. Stelter, Elk Grove; Secretary, Miss M. M. Maholm, Sheldon; Gatekeeper, Charles Sibeck, Elk Grove; Ceres, Mrs. N. M. Blanchard, Elk Grove; Pomona, Miss Carrie Dart, Elk Grove; Flora, Miss Maude Caples, Elk Grove; Lady Asst. Steward, Miss Effie Dart, Elk Grove; Organist, Miss Leona Kennedy, Elk Grove.

The officers are to be installed Jan. 6, 1900. Elk Grove Grange will begin the new year with a membership of 82, a well filled treasury and bright prospects for the future. Gleaner.

Sheldon, Dec. 4, 1899.

Tulare Grange.

To the Editor:—Tulare Grange met at its hall on Saturday and elected the following officers for the ensuing year: Worthy Master, C. J. Berry; Overseer, Frank Styles; Lecturer, John Tuohy; Steward, William Fulgem; Assistant Steward, Thomas Jacob; Chaplain, Ellen Fleming; Treasurer, Julius Forrer; Secretary, Bertha I. Morris; Gate Keeper, A. J. Wood; Ceres, Sister Mull; Pomona, Sister Slaughter; Flora, Sister Nellie Scott; Lady Assistant Steward, Sister C. J. Berry; Organist, Sister Field. Installation the first Saturday in January.

Brother Shoemaker read a letter from Hon. Irving P. Wanger, M. C., Pennsylvania, to whom Brother Shoemaker had sent a copy of resolutions passed by Tulare Grange in favor of a Congressional appropriation for forest survey in California. Mr. Wanger pledges himself to aid in getting Congress to make the appropriation.

A communication from the National Irrigation Association, asking for the names of officers and members of the Grange, was read. The secretary was requested to furnish the names.

The reading of the communication brought up the subject of irrigation and the propriety of Congressional appropriation for the conservation of water for irrigation purposes.

On this subject the very decided views of the members of Tulare Grange are that a Congressional appropriation for this purpose is as much a necessity and as much a duty on the part of Congress (it being for an internal improvement of the greatest importance) as it is to make an appropriation for any other internal improvement. It is now too late in the day to question the justice and propriety of Congress making such appropriations. Such appropriations should and will be made, and agriculture should be aided as well as commerce. The State Grange of California, at its late meeting at Napa, expressed its views on this subject, which are sufficient for the present.

The Worthy Master read an article from the Crop Reporter for November of the Department of Agriculture, which shows the efforts being made by the Department to get employment for students of colleges of agriculture by farmers, of students endeavoring to work their way through college, especially at such times as farmers are rushed with work and there are college vacations.

Tulare Grange thinks this a timely movement and hopes the presidents of the Universities of California and Stanford will take necessary steps to have enrolled the names of their students, whether they are students of agriculture or not, who desire employment on farms, in orchard or vineyard, during college vacation. It also recommends farmers and orchardists to notify the universities of the number of students they can employ and the class of work they have for them. We believe this will help students to employment and farmers to a better and brighter class of laborers. J. T.

Tulare, Dec. 13, 1899.

Selma Grange.

To the Editor:—The regular meeting of Selma Grange was held in Masonic Hall, Dec. 9th. The following officers were elected for the ensuing year: Master, J. J. Roadhouse; Overseer, T. B. Smith; Lecturer, Mrs. J. K. Roadhouse; Steward, Donnold Patton; Assistant Steward, J. K. Hobson; Chaplain, W. F. Martin; Treasurer, H. N. Cutler; Secretary, W. J. Zimmerman; Gate Keeper, L. D. Scott; Pomona, Mrs. Fannie Patton; Ceres, Mrs. E. J. Durham; Flora, Mrs. Laura L. Martin; Organist, Mrs. Laura Zimmerman; Lady Assistant Steward, Mrs. Hester Cutler; Chorister, T. R. Holton.

Selma Grange is progressing nicely. A class received the third and fourth degrees at this meeting and a class was recommended to be balloted for at the next meeting.

Selma Grange goes to visit Tulare Grange, which is our nearest neighbor, before long. We hope also to see the happy faces of a number of our State officers and hear their words of cheer. Our regular meetings are on the second and fourth Saturdays of each month at 2 P. M. T. B. Smith,

Secretary Selma Grange.

Selma, Dec. 12, 1899.

Grass Valley Grange.

To the Editor: — Grass Valley Grange, No. 256, P. of H., elected officers on Saturday evening, Dec. 9th, to serve during the year 1900, as follows:

Master, Frank M. Reed; Overseer, W. H. Bryan; Lecturer, Mrs. Mary Reed; Steward, Wallace Alderman; Assistant Steward, W. T. Merrill, Chaplain, Mrs. Willson, Treasurer, Mark Thornton; Secretary, Mrs. R. S. Twitchell; Gatekeeper, Walter Stockdale; Pomona, Miss Lynette Hughes; Flora, Miss Alice Reed; Ceres, Mrs. M. A. Coulton; Lady Assistant Steward, Mrs. W. T. Merrill; Trustees, William Bree and Charles W. Kitts.

Installation, Jan. 13, 1900.

Mrs. R. S. Twitchell, Sec.

Grass Valley, Dec. 12, 1899.

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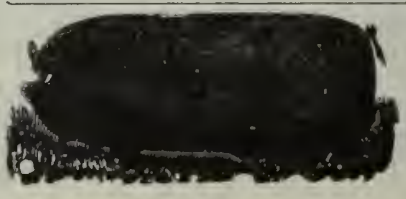
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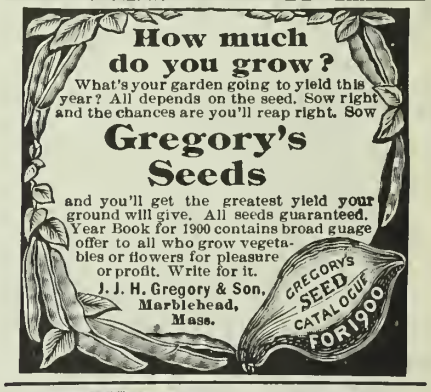
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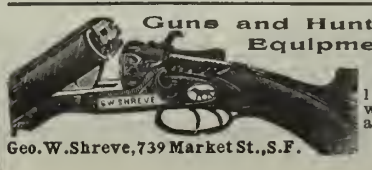


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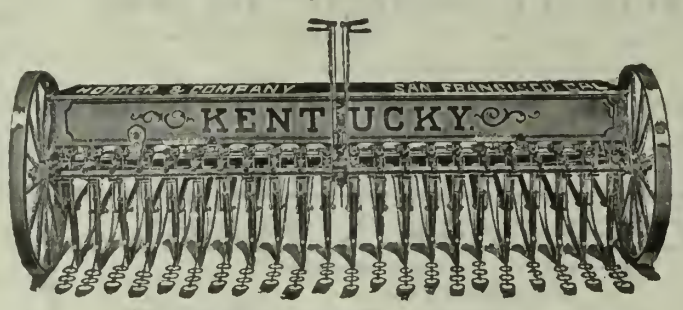
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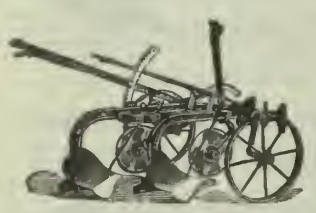


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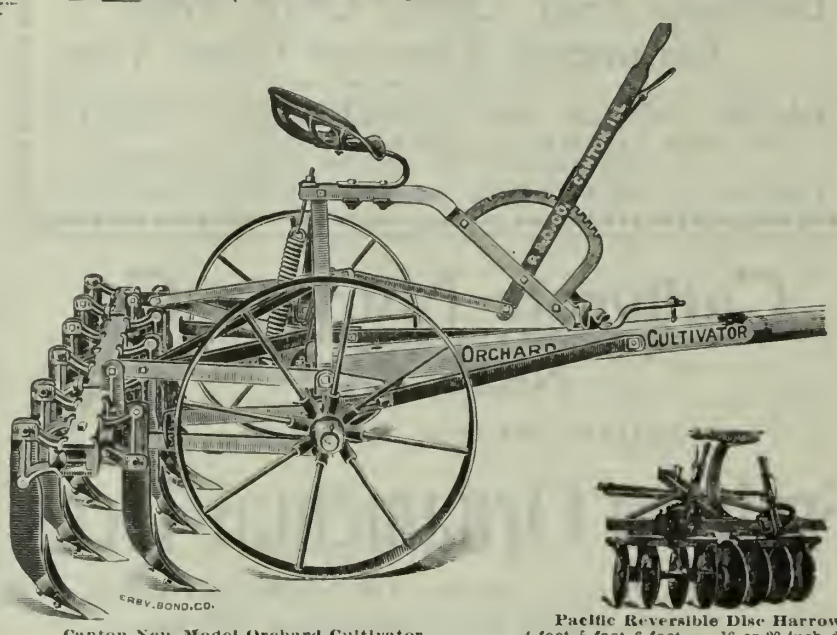
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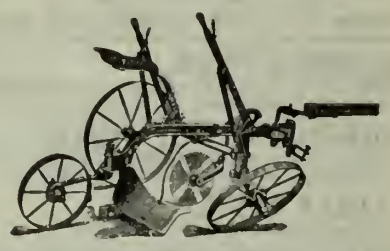

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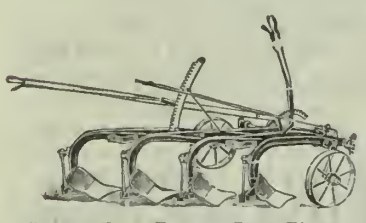

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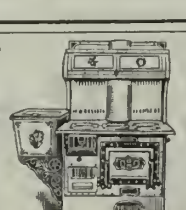
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AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 26. SAN FRANCISCO, SATURDAY, DECEMBER 23, 1899. TWENTY-NINTH YEAR. Office. 330 Market Street.

In the California Mountains.

We turn this week from the varied activities of the valleys to the picturesque industries of the mountains. The mountains are perhaps too often looked upon as a mere setting or protecting environment for the smiling, fertile valleys, but how different in fact is their relation. It is true that if the mountains were absent our State would be perhaps a bleak and wind-swept waste, but other services than protection are rendered by them. Much of our deepest and most fertile soils have come from the disintegration of mountain rocks; much of our water supply comes from their melting snows; much of our precious metals come from their rich treasuries and our timber supply from their splendid forest areas. Besides these services, the mountains constitute a very important agricultural region and add immensely to the wealth of the State by the value of their distinctive products. It is only fitting, then, that due recognition should be accorded them on our pages, which are devoted to faithful mirroring of the industrial characters of California.

We have arranged to present our readers with several groups of mountain pictures in proximate issues and have on this page a taking collection, including chiefly the forest industries. First is the lone tree upon the top of the ridge, standing like a sentinel over the thickly wooded mountain side below, as indicated by the tree tops just visible above the line of the nearer ridge. It is a picture of solitude. Next is a little plate showing the size attained by some of the grand timber trees of the Sierra forests. Four people with outstretched arms compass but half its circumference. These are not the "big trees," so called; they are merely the great trees of the forest region which still covers vast acreage in the mountains and cry for intelligent administration and conservation to prevent their extinction. The next plate shows how the lumbermen attack these great trees in their lumbering operations. Lifted above the immense boll of the tree by their peculiar supports, they drive their saw through the base of the great cylinder and secure saw logs of surprising contents of clear lumber. It seems like vandalism to fell such trees, but the fact is the tree crop is ripe and it is no more vandalism to fell them than it is to gather other ripe crops for the uses of mankind. But to know which are ripe for the saw! That is the function of scientific forestry to declare. Other plates show forest activity at its height. The immense trains of logs are rolled upon immense trucks and started for the mills. Note the diameter of these logs as shown by the height of the man and the cattle! This is lumbering that is worth seeing and thinking about. After the logs have passed the mill and have been reduced to commercial dimensions, the product finds carriage to the valley markets in many ways. A most common one is the flume which carries volumes at a minimum cost by water. These flumes are part of the way on the surface, sometimes beneath the surface, sometimes in mid air. There is no more airy, graceful work of man in the mountains than the lofty trestle which transports the flume across a valley or canyon towards its destination. This, too, the engraving shows.

The outlook is that the mountain region will be more adequately appreciated and intelligently administered in the future than in the past. Much of the land belongs to the nation and will be held as a priceless heritage for the benefit of the coming millions of California's population. Ruinous trespassing upon public lands is being reduced and wise use of them will follow. This is a matter which will require the truest science and the wisest statesmanship, and they will both be forthcoming, for public attention is being widely given to the subject.



THE LONE TREES ON THE LOFTY RIDGES



THE SAWYERS AT THEIR WORK.



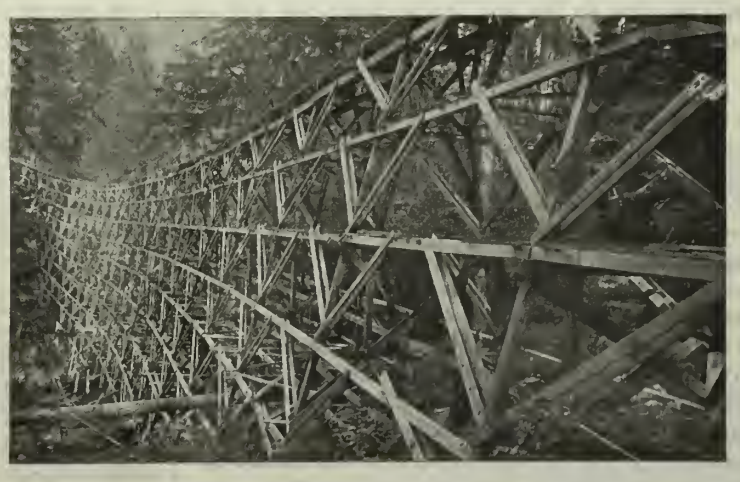
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E. J. WICKSON.....Horticultural Editor.

San Francisco, December 23, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The days are largely given over to Christmas activities. The rains, which have given so much that is pleasant to the outlook and thus brought people into generous mood, considerately ceased at the beginning of the week to give opportunity for the display of this mood in all the marts which favor the exercise of the Christmas spirit. We have never seen such throngs on the streets nor such liberal outpourings of coin in the service of Santa Claus as this year. It has been wonderful how much of this has been done all along through the dry times and the hard times of the present decade, but it is passing wonder what volumes of Christmas cheer are being carried and drawn through city streets and suburban ways, both day and night, during the present week. We shall be surprised if the merchants' reports at the end of the week do not pronounce this the greatest Christmas which California has ever seen.

Topics press upon us so heavily this week that nothing short of a rapid-fire gun can deliver them. It may be just as well, for no one has patience for protracted editorial comments in holiday week. We shall let them fly fast and throw down the pen for our own share in the frolic.

Holiday markets are proverbially out of joint, and it is not surprising that wheat options, though rising just after our last report, should settle back again on the basis of unsettled financial conditions abroad. Spot wheat, however, maintains its slow course, on the ground of scarcity of ships, etc. Nobody, however, cares to do much. Barley is quiet, but not lower; barley options are somewhat lower. Oats are unchanged and choice in light supply. Hay is as bad as ever; the reported Hawaiian shipments are not large enough to help the market. Millfeeds are weak, but prices are about the same. Fine beef and mutton are in good shape. Christmas beef, specially prepared, has sold up to 8 cents, and a carload of fancy spring lamb has come up from some long distance and sold very high—variously reported at 12½ to 15 cents per pound. It would be a good thing to have a few such lambs as we mentioned last week. It is too bad to have to send out of the State for them. Choice fresh butter and eggs are holding up well, but lower grades are cut down. Poultry is selling well; even large Eastern supplies being readily absorbed. Sweet potatoes are higher. Tender vegetables from the south are in less supply and rates are advanced. Oranges and apples are selling fairly, for choice fruit. Dried fruit is quiet. Some prunes are going to Germany at current rates. Wool is quiet this week, owing to the financial disturbance at Eastern points.

The fruit growers' convention in San Jose closed on Friday last, after having maintained its interest well throughout. If there be criticism to pass upon it, it would be that it was a little weak on the cultural side, but this only means that it was correspondingly strong on the commercial side, and undoubtedly this side has the commanding position at present and must be suitably regarded. We give on another page the full address of M. Theodore Kearney, which Mr. Naftzger of the Southern California Orange Growers' Exchange pronounced the *piece du resistance* of the convention, and it was evidently so regarded by those who heard it. We commend it to the careful perusal of our readers. Other matters in the line of co-operative marketing as developed at the convention we shall have in future issues. We also print this week other convention matters, including a note on the visit to Stanford University, which was a very satisfactory event all around.

The convention made emphatic declarations on other subjects than those noted in last week's Pacific Rural Press. The reciprocity policy with countries producing goods which will come into competition with California products in American markets was evidently strongly distasteful to the convention. The following general declaration was unanimously adopted:

Resolved, That we, the fruit growers of the State of California in convention assembled, do, with all respect, but firmly and earnestly, call upon our Senators and Representatives to urge upon our honored President and upon Congress, as a matter of sound policy, and demand as a matter of common right and justice, that no reductions whatever be made or allowed in our present tariff laws which will directly or indirectly reduce the protection under which we are now working, and which has brought us all prevailing and unexampled prosperity.

This referred, among other things, to the proposed reciprocity with the British West Indies in some tropical fruits, and it is proposed to fight strongly against any such injury to California products. Other specific resolutions in the same line were also adopted; for instance, an excellent set by B. N. Rowley of San Francisco, in which the fruit growers of the State of California most earnestly and strenuously protest against any and all proposed reductions from existing tariff rates on imports of French prunes, walnuts, almonds, preserved fruits, olive oil, wines, etc.

The subject of discrimination, favoritism, rebates and all other forms of treatment which make conditions unequal among those shipping fruit was discussed at length at the convention and most earnest protests were made. The following resolution by R. D. Stephens crystallizes all that line of the convention's work:

Resolved, That we disapprove and denounce as unjust and injurious the existing private car line system to which our shippers are farmed out by the railroad companies, and to which shippers are compelled to pay tribute, and we urge the railroad companies to provide suitable equipments, or to permit the fruit growers to do so, for all fruit shipments free from the domination of any individual or private corporation, and available to all shippers on equal terms.

The convention was all on the growers' side, the whole atmosphere was charged with the co-operative spirit. The opposition left the growers to themselves. It would have been more entertaining to the public if there had been something more like a fight or clash of interests, as there has been in earlier years.

The immediate outcome of the convention will be another effort for the co-operative organization of growers and driers of deciduous fruits to handle their own business something on the lines of the Fresno Raisin Association. A convention will be held in San Jose, January 15, to promote this plan. During the convention a meeting was held in this interest and W. H. Aiken of Wrights, president of the meeting, appointed the following general committee on organization: S. P. Sanders, J. R. Lewis, S. R. Johnston, W. P. Cragin, C. W. Childs, Alfred Barstow, L. F. Graham, H. L. Stevens, San Jose; F. M. Grimshaw, Sacramento; J. B. de Jarnette, Colusa; A. B. Fletcher; H. L. Gibbs, Napa; A. R. Sprague, Los Angeles; John Markley, Sonoma; Thomas A. Jacobs, Visalia; Charles E. Barnes, Suisun; H. W. Meek, San Lorenzo; A. Moncure, Palermo, Butte county; B. E. Hutchinson, Fowler, Fresno county; B. F. Walton, Yuba City; G. E. Lawrence, Lodi.

The San Jose members of this committee have been in session since the convention. They propose to make arrangements for the organization of the work in Santa Clara county so that every school district shall send delegates to the convention. The same course is to be recommended in the general call, so that delegates may be in attendance from every fruit growing section in the State. Delegates are to be appointed at meetings specially called for the purpose to represent Granges, farmers' clubs or other similar agricultural associations.

The outcome of the successful exhibition of the Oakland Poultry Association, the California Collie Club and the Pacific Pigeon Club, which has just closed in Oakland, is an effort to unite the poultry interests over the entire State. There are now some fourteen different poultry associations in various parts of the State, each one doing good work in its own locality, but without any State organization or any established relations with the other organizations. The idea was advanced of organizing a State Poultry Association, to be composed of delegates from the various local poultry associations, and to bring about a more complete understanding and harmony of chicken interests of the State.

The beet sugar people are also moving against reciprocity policy which helps the "other feller" at the expense of our factories. At the meeting of the American Beet Sugar Association held at Omaha last week officers of the association were elected as follows: Henry T. Oxnard, president; Julius Stroh of Detroit, treasurer; R. M. Allen of Ames, Neb., secretary, and a vice-president from each of the beet sugar companies in the United States. Resolutions were passed protesting against any reduction of the existing tariff rates on sugar by treaty or otherwise, or any encouragement of an increased importation of sugar which would bring the American farmer and laborer into competition with the tropical coolie or slave labor.

It is a time for great meetings in the agricultural interest. Southern California will have its occasion at Pasadena. Beginning at two o'clock on the afternoon of January 1st and continuing until Thursday evening, three sessions a day, the University Farmers' Club Institute will collect its participants from the whole region south of Tehachapi. Prof. Cook, the University conductor for that part of the State, has given much time to the arrangement of this meeting and has received most hearty response. There will be addresses by many of the most prominent fruit and farm men and women of the southern counties, and ample time for discussion of many important matters. We hope our readers in southern California will give special attention to the occasion, and all from above who wish to make a New Year's trip to the south will find it an excellent opportunity to get an insight into southern California spirit and energy.

Many readers of the Pacific Rural Press will hear with regret that the D. E. Allison Company, doing a large commission business in fruit and general produce at 501–509 Front street, is unable to meet its obligations and has suspended. David E. Allison, president and principal stockholder of the company, has put Chas. Campodonico and Thos. Burns in charge of the produce on hand, with instructions to sell the same for the benefit of the shippers in the country. The troubles of the suspended company have been caused by the fact that D. E. Allison owes a large sum of money to the Crocker-Woolworth National Bank and is unable to pay the money upon demand. Mr. Allison says: "There is considerable due to shippers of produce in the country. My failure is complete. I have not a dollar in the world."

QUERIES AND REPLIES.

Tuberculosis and Milk Products.

To the Editor:—The reading of a most interesting article on "Tuberculosis Among Milch Cows," in the Pacific Rural Press of Dec. 2nd, led to a discussion as to possible infection from butter. There are constant warnings given regarding milk, but nothing is said of butter. Are the bacilli eliminated in the process of butter-making? In other words, are people who do not use milk or meat, but consume average quantities of butter, safe from infection? Also what of cheese? Does the process of cheese-making do away with the bacillus tuberculosis?—College Park, San Jose.

We cannot definitely answer this question. The many treatises which we have at hand make no reference to this question. We have no doubt that the danger is minimized, but there is nothing in either butter or cheese-making which would necessarily kill the bacillus. Perhaps some reader can give us references to experimental data on this subject.

Plowing Orchard and Vineyard.

To the Editor:—In your remarks in "California Fruits" on plowing, I take exception to plowing first *from* the tree or vine, and later turning the soil back. Twice plowing is the best means of controlling the weeds and keeping the soil in fine condition—no cultivation equivalent; but by turning the soil to the tree or vine it retains moisture better and keeps the root cool, thus preventing blossoming so early as would be the case if a furrow were opened up in February. And then when plowing from the vine later, it is an easy matter to cut out the combing between the vines, leaving the ground level and in fine condition. Early blossoms are in danger of frost, and my system controls suckers on the vine.—Fred H. Lee, Lodi.

In "California Fruits" different policies in plowing orchard are given, because different practises prevail according to soil, rainfall, etc. The preference is given to plowing from the trees in light, deep soils and in regions of light rainfall, because, where standing water is not feared, it is far less dangerous to uncover the roots in the rainy than in the dry season. It is of crowning importance to have the loose earth well thrown back at the beginning of the dry season. This consideration is, of course, of greater importance with young trees than old, because of their less root extension. We have seen many demonstrations of the evil of late plowing away from the trees. As for the effect of the heat on the roots by a degree of uncovering in winter, it is probably much less than our correspondent thinks. It has been quite fully shown, as has been frequently cited in the Pacific Rural Press, and in "California Fruits," as well, the too-early start of the buds does not come from soil warmth and root action, but from the warming of the branches by direct sunshine. The use of snow and ice to keep the roots cool has not retarded blooming, but whitewashing the branches to prevent absorption of heat has had an appreciable effect in this direction.

Peach on French Prunes.

To the Editor:—Will grafting over three-year-old French prunes (which are on peach root) to the Muir peach make a successful tree, or will a plum graft on the prune be better?—Parkers & Haig, San Gabriel.

The Muir peach will go pretty well; it may overgrow the stock, but otherwise it ought to be satisfactory. Any plum will work well.

A Native Textile.

To the Editor:—There grows here on the land overflowed by Clear lake a species of stinging nettle which when dry has a fiber of great strength, and when worked has a gloss like silk. It grows to a height of 10 or 12 feet and without cultivation yields tremendously. The fiber runs the whole length of the stalks, passing over the joints. It occurred to me that this plant might be of value. Will you kindly let me know whether the plant mentioned is of the nettle family? I have often twisted the fiber into twine and found the strength something remarkable.—R. H. Rodman, Lakeport.

The plant is undoubtedly one of the nettle family—a family rich in fiber plants—and California has perhaps the grandest nettles in the world in point of size and acreage. These fibers are available for extraction and capable of production of high-class fabrics. Besides, we can grow any quantity of ramie, which is the most famous nettle in the world and yields a fiber fine enough to debase silk with. There is no trouble about either gathering wild fiber or growing tame fiber, except that the commercial end of the business is not developed. Machine extraction has never been able to compete with Asiatic hand labor, and every farmer who has planted fiber plants in California for the last thirty years or more has had his plants for his pains. It may be otherwise some day, but the day is not yet on the published calendars.

Application of Lime, Sulphur and Salt Wash.

To the Editor:—Would it be safe to apply this remedy for San Jose scale, so long as the buds are not opened? We shall not prune here until as late as we dare prune.—Parkers & Haig, San Gabriel.

The tree should be quite dormant and the bud-scales closed down. It is unsafe after the opening begins, as a rule.

Woolly Aphis on Nursery Trees.

To the Editor:—Some time ago I engaged 600 apple trees from a nurseryman. I have been told lately that his trees are infested with woolly aphis. If they are very badly infested, I will not take them; if only slightly affected, I will take them if you will tell me how to clean them thoroughly. I paid one-third of the price when I engaged them, and I said I wanted them free from woolly aphis or any disease; but I suppose I will have to stand the loss if I do not take the trees. My idea is to take a scrubbing-brush and lukewarm, soapy water and scrub them. Would that "fix" them?—Reader.

It may be that your nurseryman will only deliver you clean trees, after all, and you may not have to cross the bridge which you are preparing for. Many things are said about nurserymen which are not true, and we hope this will be an instance of it. If, however, there does seem to be some aphis, we would refuse to take them if we were in a region where the pest is not yet known. The aphis is, however, so widely distributed that you cannot expect to be long free from it, if your neighbors have it, even if you do plant absolutely clean trees. Your method of cleaning the roots should be very effective, if you reach all the crevices. We have, however, little hope of stamping out this insect. The escape must be through resistant roots, just as it is with the phylloxera. Old trees should be treated around the root-crown with tobacco dust, as we have several times described. Keep the insects from collecting at the root-crown, and apple trees on good soil can carry many on the smaller roots and still be profitable.

Spark's Mammoth Apricot.

To the Editor:—We find Spark's Mammoth apricot unsatisfactory. The tree is fine, vigorous and shows abundant signs of bud, but the fruit does not set with us here. We always get a little fruit, which is of fine quality and superb flavor, but never yet have we had a crop. The trees are six years old.—Parkers & Haig, San Gabriel.

The coming census will give special attention to the subject of irrigation, and Mr. F. H. Newell, who is in charge of the irrigation work of the Geological Survey, will conduct the inquiry for the census. The Census Office desires to secure the co-operation of all ditch owners and irrigators, to the end that full and trustworthy data may be secured. Special schedules of inquiry will be sent to all who will assist in the investigation, and names should be sent to Mr. Newell or to Mr. L. G. Powers of Washington, D. C., who has general charge of the agricultural features of the coming census. It will be readily apparent that the volume and value of these statistics will depend very largely upon the attention and interest shown therein by those engaged in irrigation, and it is earnestly hoped that all to whom the schedules are addressed will appreciate the importance of the request and make prompt and careful reply. In this way only will it be possible to make the information concerning irrigation full and complete.

Government Report on Wheat.

Washington, December 15.—The statistician of the Department of Agriculture reports the wheat crop of the United States for 1899 at 547,300,000 bushels or 12 3 bushels per acre. The production of winter wheat is placed at 291,700,000 bushels and that of spring wheat at 255,600,000 bushels. Every important wheat-growing State has been visited by the special agents of the Department and the changes in acreage are the result of their investigations.

The newly seeded area of winter wheat is estimated at 30,150,000 acres, which is about 200,000 acres greater than that sown in the fall of 1898. The sowing of wheat is still going on in California and some of the Southern States, and the foregoing estimate is subject to correction. The average condition is 97.1.

The acreage sown with winter rye is estimated at 0.7% less than that of last year. The average of condition is 98.2%.

The compilation of the annual returns from individual farms is approaching completion. Any slight changes that may be called for in the average yield per acre of corn, oats, barley and other crops published October 15th will be made at an early date and the final figures will then be available.

WEATHER AND CROPS.

Report of the U. S. Weather Service for Week Ending Dec. 18, 1899.

Alexander McAdie, Forecast Official and Station Director.

Nearly normal temperatures prevailed during the week and frosts occurred in most sections, though too light to cause damage. In the central and northern portions of the State and in some parts of the San Joaquin valley rain has fallen nearly every day, greatly retarding the work of plowing and seeding; in some sections seeding of summer fallowed ground has been abandoned, owing to the heavy rainfall. Southern California and the southern portion of the San Joaquin valley have been greatly benefited by rains during the week, and in those sections plowing and seeding are progressing favorably.

Early sown grain is progressing rapidly and is in excellent condition. Prospects continue good for an increased acreage of grain and for larger crops than last season. Pasturage is abundant in all sections, and the heavy rains in the foothills and snow in the mountain regions insure a plentiful supply of feed for stock for the coming season.

Oranges are ripening rapidly in the extreme south, but picking proceeds slowly and will not be general until after the holidays. Pickled olives are being shipped in considerable quantities from Butte county, where the yield was greatly in excess of last season's.

Sacramento Valley.

Rain has fallen nearly every day during the week and the soil is thoroughly saturated. Very little farm work has been possible; the seeding of summer-fallowed land has been abandoned in some localities. Frosts have occurred in most sections, generally too light to cause damage. Early sown grain continues to look well, and green feed is abundant. Butte county oranges are nearly all marketed. Pickled olives are being shipped; the yield is heavier than last season's.

Coast and Bay Sections.

In the central and northern portions the heavy rains have greatly retarded plowing and seeding. Some farmers have decided to volunteer their land, as it is late for plowing. In the southern coast regions conditions have been favorable and farm work is progressing satisfactorily. Early sown grain continues thrifty and prospects are good for large crops. Pasturage and fruit trees were benefited by rain. Pruning is progressing. A correspondent at Arroyo Grande reports the first heavy frost of the season on the 9th.

San Joaquin Valley.

Continued rains have retarded farm work except in the southern portion of the valley. In some sections the black land is so wet that plowing and seeding have been practically abandoned; work on sandy soil will be resumed in a few days, if pleasant weather continues. On the whole, prospects are still very good for large crops throughout the valley. Early-sown grain and grass are making favorable growth. Heavy snowstorms have occurred in the mountains, and the rainfall in the foothill section has been heavier than in the valleys, insuring abundance of pasturage for the coming season. The weather during the week has been generally cloudy and cool; no killing frosts have been reported, though light frosts have occurred in some sections.

Southern California.

All growing crops were materially benefited by the rain of the 16th and the 17th, and the soil is now in good condition for continued plowing and seeding. Early-sown grain is looking well. Pasturage is good. Oranges are coloring rapidly in the vicinity of San Diego, but picking has not commenced except in a few orchards. Vegetables are doing well. Frosts were frequent during the week, but no damage was reported.

Los Angeles Summary.—Cool, dry weather prevailed until the night of the 15th, when a rain storm began, which continued during the 16th and was general in southern California. The rain was heavy in the northern sections and moderate in the southern; the precipitation ranged from 2½ inches at San Luis Obispo to nearly ½ inch at San Diego. The rain came at a most opportune time, as grain and feed were beginning to show the effect of dry weather, and could not have withstood the lack of moisture much longer. The rain will now keep grass growing, save early sown grain and enable farmers to continue plowing and seeding, which were interrupted by the dry weather. Frosts were frequent, but no damage is reported to have resulted. Oranges are improving daily; picking and shipments are light at present.

Eureka Summary.—Fruit is in advanced stage by reason of unusually high temperature. Many potatoes are not harvested, and ground remains too wet for plowing.

The following data for the week ending 5 A. M. Wednesday, December 20, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week...	Total Seasonal Rainfall to Date.....	Total Seasonal Rainfall Last Year to Same Date.....	Average seasonal Rainfall to Date.....	Minimum Temperature for the Week	Maximum Temperature for the Week.....
Eureka	1.15	25.11	9.79	13.53	32	54
Red Bluff	1.90	9.75	3.52	8.34	34	56
Sacramento	1.17	8.99	2.86	5.92	32	54
San Francisco	1.57	9.67	3.67	7.07	38	58
Fresno	.50	4.41	1.82	2.83	34	68
Independence	.44	1.66	0.61	1.88	22	52
San Luis Obispo	3.40	9.30	1.31	3.39	38	60
Los Angeles	.84	3.34	0.30	5.04	36	68
San Diego	.56	1.84	1.08	2.44	46	66
Yuma	.00	0.58	1.32	1.52	38	70

FRUIT MARKETING.

The Raisin Victory and Its Lessons.

By M. Theodore Kearney, Pres. of the California Raisin Growers' Association, at the Fruit Growers' Convention at San Jose.

The question, How shall we market our crops so as to produce the best results? is one that is attracting the greatest attention among the fruit growers of California. Having had some experience in endeavoring to solve the problem for the benefit of the raisin growers, there has been a considerable demand made upon me for information concerning the methods adopted by us, and I therefore desire, with your permission, to avail myself of the very favorable medium of the proceedings of this convention in meeting this demand.

Raisin History.—Raisins have been produced in California for many years, but it was not until 1885 that the quantity reached the round figure of 10,000,000 pounds. The production rapidly increased each year thereafter until nine years later, or in 1894, the output was 103,000,000 pounds. During this period, which was one of great prosperity in the United States, the demand was in excess of the supply, except in 1894, and the raisins were sold f. o. b. shipping points, at steadily advancing prices. The panic of 1893 and the excessive crop of 1894, together with the dishonest and suicidal practises of some packers in filling orders with raisins of a quality much inferior to the grades indicated in the box marks, brought about a total change in the methods of marketing the crop. Thereafter the dealers in the East refused to pay for raisins except after arrival and upon examination; and as the demand was very much reduced by this change, and the crop of 1894 was much in excess of previous years, the growers were obliged to ship their raisins East on consignment. I think we have all learned the bitter lesson of the consignment system and I need say no more on this point than that with nearly every crop in the hands of a separate broker, for there were almost as many agents selling the crops as there were growers, each grower's crop was used against every other grower's crop to beat down the price and ruin the market. The logical result of all this was that when the commissions, freight, packing and other charges were paid the grower had not only nothing left for his labor, but was actually out of pocket on the year's transaction. In fact, raisins dropped to $18 per ton in Fresno in 1897 and the farmers found it cheaper to use them, and did so use them, as a substitute for barley in feeding their work horses. As a further result of this condition great areas of raisin vineyards throughout the State were uprooted, and in Fresno county alone the assessor's books show a reduction in acreage in two years of 16,000 acres, representing a loss to the growers in labor and material of at least $100 per acre or $1,600,000. Of course this meant widespread ruin to the raisin growers and hundreds of mortgages were foreclosed and the farmer and his family turned adrift to compete in an already overcrowded labor market tramping about the State in search of a day's work.

Efforts at Organization.—You will naturally ask, Was nothing attempted to put a check upon this condition of things? I answer, yes. For three years efforts were made to organize the growers, but without success. I regret to say that farmers as a class are somewhat inclined to an excess of suspicion at the wrong time, and to an absence of it at the right time. It is also unfortunate that in large business affairs they appear to be lacking in masterful business ability and broad views which are so necessary and are so conspicuous in the many large undertakings in commercial life. It requires great patience and greater perseverance to win their confidence, but when they secure men of ability and of unswerving integrity as leaders, they can be depended upon to fall into line and stay there however fierce the battle may rage.

Requirements of Success.—To form an organization that will win the confidence of the fruit growers and command success, it is essential:

First—That capable men shall be selected as its officers, and let me say at this point that growers should not commit the fatal error of refusing to pay sufficiently high salaries to secure competent men. The services of able business men are wanted by shrewd men everywhere, and as these services command high salaries or as such men can use their time with large profit in their own affairs, it is useless to expect to secure them at a low price. Suppose the Raisin Growers' Association had been obliged to pay their five active directors $5000 a year each or $25,000 in all, the investment would, it appears to me, have been a good one, for in the little side issue of selling the surplus grapes to the wineries those directors by their firmness and business judgment broke up an understanding among the winery companies and compelled them to advance their prices for grapes $3 per ton, or equal to $100,000 on the crops purchased this season. Again, in naming prices for this year's crop of raisins the directors first made careful investigation of the condition of the market, both in the United States and abroad, and advanced the prices over last year's more than 1½ cents per pound, or equal to an increased profit to the growers on this year's crop of $780,000. If we should figure on the basis of what raisins would probably have brought without the aid of the Association, the increased returns would amount to at least $1,500,000. It should of course be understood that high salaries should only be paid to those who can furnish ample proof in what they have previously accomplished of their ability to earn them.

Second—Having secured the right men to manage the business, at least 75% of the whole crop of the State or coast should be placed under the absolute control of the directors to be packed and sold. Grades should be established under which the fruit is to be packed and sold, and these grades should be rigidly maintained without fear or favor; the greatest care should be exercised in sending out the fruit in attractive packages, suited to the varying requirements of the different markets, and every parcel should be packed with absolute honesty and uniformity. All packages should have on them the brand of the Association in addition to that of the the packer, so that the trade shall come to rely upon the Association's trade mark as a guaranty of quality. One of the most serious obstacles in the way of the development of markets for fruit is the short-sighted and dishonest practise of some shippers and farmers in placing choice fruit on top and poor or worthless stuff in the middle, thus greatly exasperating the buyer. The only hope of a remedy for this evil is in association, which takes the packing out of the hands of the individual. I have said that 75% of the crop of the State or coast should be secured. In my judgment it would be useless to hope to control the price of prunes, for instance, if more than 25% of the crop of the coast were permitted to be offered in competition with the Association's crop.

Third—Do not at the beginning ask the farmer to subscribe sums of money for any purpose. First prove your ability to make a success of the business and then he will subscribe if you find it necessary to ask him. This, I think, was the mistake made last summer in the attempt to organize the deciduous fruit growers. When you have absolute control of the crop you will find business men falling over each other to finance and handle it for you. Get control of the crop first; do it at once, don't wait until the crop is almost ready for picking before you begin this important work, and even if you do not succeed in making such arrangements as you wish the first year you will be all the better prepared to try again the following year, and in any event you will be much stronger with an organization than without it. One of the greatest difficulties we had to contend with in the raisin industry was to convince the grower that if he would cut loose from the packer and commission man we could help him to secure advances on his crop, but he quickly found that as soon as the title of 75% of the raisin crop of the State, even before it was grown, was vested in the Association the banks were quite willing to cash the grower's drafts on the Association to a reasonable amount, payable out of the proceeds of the crop when sold.

Fourth—This, although the last of the four essentials I desire to bring to your notice, is the most important of all; it is the campaign of organization. You will find among the mass of farmers, and especially among those who have been fairly successful, an apathy, a dense, dogged indifference and incapacity to grasp the possibilities or probabilities of the future, a narrow, all-prevailing suspicion that you have an ax of your own to grind, that is extremely discouraging. Those of you, however, who realize how much there is at stake, how great the loss will be if matters are allowed to proceed as in the past, and how great the gain to all individual interests and to the State at large if the fruit farmers of California can be induced to organize, should take this matter in hand with the firm determination to win. Much labor will be necessary and there should be thorough organization to carry on the work. Let it be taken in hand on the same lines as those of a political campaign, with press bureau, men of influence to address meetings of growers at the principal centers, and active workers holding meetings at all the school houses in the fruit-growing districts. In this way you can succeed; without it you will be wasting your time in trying. Surely the reward is worth the effort, and I can imagine no more inspiring and noble work than to bring overflowing prosperity to this earthly paradise—California.

Central Organization Requisite.—As a detail of organization I have been asked the question whether it is better to have one organization for the whole State or a series of organizations scattered over the State with a central association composed of delegates from the local organizations. We should bear in mind that we are much inclined to be creatures of habit, and we naturally adopt the political idea of local organizations represented in a central body. While this principle is entirely sound in matters of local government with independent local conditions which must have first consideration, it would not in my judgment be at all applicable to a fruit growers' organization. There is weakness in divided and scattered councils and in the diverse views of so many judges. Truth is found in the homely saying that "too many cooks spoil the broth." I am convinced that there should be but one organization for each division of the fruit-growing interests within the limits of California, the divisions to be: first, in priority of organization, citrus fruits; second, raisins; third, prunes and dried fruits; fourth, nuts; and fifth, deciduous fruits. Each organization should be given absolute control of the crop and its officers should have the cordial and unwavering support of its members, so as to most thoroughly centralize the power, for the stronger you make the head of your organization the greater influence and success you will secure. This principle has been adopted by the raisin growers and although we have members and packing houses from Woodland to San Diego, we have no difficulty in having every pound of raisins invoiced from our office in Fresno and every grower paid for his crop from the same office. It may appear later on that the management of these various fruit interests could be carried on more economically by merging them into one organization. That subject, however, can with safety be allowed to wait awhile. It is better that we learn to walk before we attempt to run.

The Packers.—There is one feature of our raisin industry that has given us serious trouble and has proved a difficult problem to solve, and that is our relations as growers with the packers and selling agents. Although the packers as a class have found the raisin business very unprofitable (their large gains in packing charges, commissions, etc., having been swallowed up in unprofitable speculations in raisins and other fruits), they were very much opposed to organization by the growers and used much influence with many of those whom they had helped financially. However, we proceeded with the organization and loosened their grip on the needy growers by arranging with the banks to let the growers have money orders on us.

As the virtual owners of the raisins, we last season made contracts with the packers to pack and sell our raisins for an agreed price, but the working of the system gave rise to so much friction, the packers never having been subject to control previously, that at the beginning of the new year I appealed to the growers to arrange to do their own packing and selling independently of the packers, but without avail, there being a large minority who failed to venture. A new contract with the packers was therefore entered into, under which we have worked this season, which was more stringent than the previous one and which provided that at the beginning of the season we would distribute the crop among the various packers at our discretion by an allotment, and each packer was required to agree to buy and pay for on or before January 15th next, at prices to be fixed by us, all of the raisins alloted to him, all raisins to be paid for in cash before shipment. On these terms 117% of the whole crop, no matter what the quantity might prove to be, was applied for. In other words, 17% more than the whole was asked for, and we were obliged to scale down their applications.

This it would seem should be entirely satisfactory to the growers, but the fault I find with it is that it stimulates a fierce rivalry among the packers both to secure raisins from the growers and to sell them, and although they are under heavy penalties, the forfeit money being in our hands, not to offer inducements to growers nor to share commissions with buyers, both are being done and to the extreme dissatisfaction of those who honestly live up to their engagements, and it is done in such a way that it is simply impossible to prove a case against the delinquent. I feel all the while as if we were camped on the top of a volcano and that an eruption is imminent at any moment.

Another evil in this state of affairs is that the trade in the East is in a continual state of unrest, each dealer fearing that his neighbor is getting the advantage of him in price by this underhanded giving away of a portion or the whole of the packer's commission. I believe it would be very greatly to the interest of the growers if this business of distribution were carried on in such a way that every dealer would be absolutely certain that his competitors could have no advantage in price over him. With this assurance the product would be received with favor and the sale of it fostered and promoted to the fullest extent of the enormous possibilities within the power of the jobbers and wholesale dealers of groceries. With this end in view I shall this winter seek to bring into one organization all the raisin packing houses and seeding plants, and to make the bond of interest stronger between the packers and the growers I shall advocate the purchase by the growers' association of one-half the stock of the packers' association. The profit to the packers coming to them in dividends on the stock there will be no temptation for any one of them to cut commissions or in any other manner violate the rules of the Association, and as a result I shall confidently expect at home peace and greatly increased profits for the packers, and throughout the East a general feeling of satisfaction in the trade.

A Vital Point.—Before leaving this subject I desire to emphasize the fact that dealers do not so much desire low prices as they do that they be guaranteed

against a fall in prices after they have bought. I have been told repeatedly by influential dealers that they would not object to an advance of 1 cent or 2 cents a pound in raisins if we would support the market for them, and we therefore make our guaranty of prices a leading feature of our price lists. I wish also to say that I have by experience learned this fact, that it is not a low price in itself that will make a market for our products, but much more than that, it is the good will and active assistance of the trade that will secure customers for you.

What Has Been Done.—As an illustration I may say that our crop of raisins in 1897 was 3250 carloads, and being without organization our prices dropped till in December unpacked raisins could not be sold at 1 cent per pound, and we had to carry over 1000 carloads into the following season. In 1898 our crop was 3500 carloads, but with organization we put up the price of unpacked raisins to 3 cents per pound, and sold the whole crop, together with the 1000 cars carried over.

This year the crop is estimated at 2700 carloads of ten tons each, and with organization we have raised the price of unpacked raisins from last year's figure of 3 cents to within a fraction of 5 cents a pound, or in two years from 1 cent to nearly 5 cents. At this price there have already been shipped out and paid for 2200 carloads ; 150 cars of the remainder are sold on time orders and the remaining 350 cars are under contract of sale and will be paid for by January 15th next, thus closing up the grower's business on a cash basis within four months from the beginning of harvest, and for the first time in the history of the industry.

Mainly as a result of this success the savings banks report that the growers are rapidly paying off their mortgages ; traveling men say that Fresno, the center of the raisin district, is one of the most active business places in the State, and real estate agents say that the value of Fresno town property has increased 50% within two years, with free sales, and that vineyards which two years ago could not be sold for $100 to $150 per acre now find willing purchasers at $250 to $375 per acre.

Importance of Combination.—I can assure you that the raisin growers, almost to a man, are now firmly convinced that their salvation is in combination. With combination we are able to put into practise the lesson Californians have been taught, to "charge all the traffic will bear." With combination we can guarantee to the dealer that if he buys our product he shall not lose, for we will hold up the market for him at all hazards. In this is the keynote of our success. With combination every grower is assured that he will get the average price of the season for his crop, and where is the grower who would not be willing to sell on these terms and thus be relieved of the worry and anxiety of trying to determine when he ought to sell.

This is an era of trusts and combinations. The principle is sound and it is here to stay. By combination great economies are secured and the cost of producing and transferring commodities from the producer to the consumer is greatly lessened. To the fruit growers of California this principle will prove of untold value in the future. We have in this great State the garden spot of the world, where fruits of every kind can be grown in the greatest profusion and perfection. Our sole aim from now on should be to apply this principle of combination in all our affairs, so as to secure the greatest economy in production and in placing our products on the markets of the world, while at the same time supplying fruit of the highest quality, put up in attractive packages and packed with absolute honesty. We may then hope that in addition to our splendid home market we will, with the opening of the Nicaragua canal, be called upon to send out hundreds of shiploads of fruit and reach countless millions of people whose demands will in time require the products of fifty acres of orchard and vineyard for each acre now in bearing in California. Let us not, therefore, as producers seek to destroy the principle of combination, but rather let us use that principle to enhance the value of our products, so that we can afford to pay an enhanced price for what we buy and have a margin left with which to improve and extend our industries. This I am convinced is the line of least resistance and the one that will yield the best results. We should, however, advocate and recommend to our law makers a wise control and supervision of trusts and combinations, to the end that we may preserve to our use all the advantages of combination, and at the same time protect the people from the gross abuse of the principle.

THE DAIRY.

The Shorthorn as a Dairy Cow.

To the Editor:—The milking trials and the butter tests of cows at the London Dairy Show, held in October last, prove that the Shorthorn breed of cattle, or their crosses, still take the lead in the dairy classes as producers of milk and butter in England. I say "still take the lead," because it is no new thing, for during all the years in which these trials have been conducted, practically under the same conditions, if I remember rightly, there has only been two or three seasons in which cows of any other breed have carried off the champion prize. I distinctly remember one year in which a Jersey cow produced, I think, something over three pounds of butter a day, and another year in which a black cow of unknown breeding had the championship with a product of more than three and one-half pounds of butter a day, by which we may safely conclude that there are good dairy cows among all breeds and colors.

This Year's Figures.—This year a cow of the Shorthorn and Guernsey cross took the champion prize over all others, with a product for the twenty-four hours of 63 lbs. 1 oz. of milk, containing 13.15% total solids, with 3.90% fat. In the butter tests this same cow gave 68 lbs. 8 oz. of milk and 2 lbs. 11¾ oz. of butter in one day.

The best Shorthorn cow gave 58 lbs. 9 oz. of milk and 2 lbs. 14½ oz. of butter, being more butter than was produced by any other cow in the show.

I give below the milk and butter products of the four best cows in the three classes, viz., Jersey, Shorthorn and any other breed or cross, which includes the Guernsey, Red Poll and Ayrshire breeds, none of which come quite up to 2 lbs. of butter a day. The four best Jerseys gave 147 lbs. 9 oz. of milk and 8 lbs. 10¼ oz. of butter. The four Shorthorns gave 222 lbs. 1 oz. of milk and 10 lbs. 1½ oz. of butter. The four cross-bred cows gave 225 lbs. of milk and 9 lbs. 9 oz. of butter.

Shorthorn Crosses.—As the Shorthorn cross predominates to a large extent in England, probably 99 times in every 100, we may at least guess that the cross-bred cows contained more of the blood of the Shorthorn than of any other breed, though neither the *Mark Lane Express* nor the *Farmer and Stock Breeder* gives any particulars as to the breeding of any one of the four, excepting the champion winner, as stated above. The twelve cows that produced such quantities of milk and butter are certainly very good ones, whatever their breeding might be. Three of the Jerseys were at some disadvantage in regard to the time they had been in milk, the cow that gave 2 lbs. 9¼ oz. of butter having been in milk 177 days and two of the others over 150 days each; but, I suppose, that makes no difference with some people, at least, whether it does with the yield of the cows or not, as when once I argued in favor of an allowance being made for quantity of butter produced when a cow had been in milk over a certain length of time at our State Fair, I was answered by the principal manager of the tests "that no difference ought to be made for the length of time a cow had been in milk; all cows ought to be newly calved." That was the substance, if not the exact words, used in the answer to my proposal, which I thought, and still think, to be as reasonable as the allowance made for difference in each class for the difference in number of days in the ages of two, three and four-year-old cows or heifers, respectively.

The Shorthorn in the Dairy.—However, let us get back to the Shorthorns, which some would have us think are not fit to be in any respect classed as dairy cows, and it would no doubt be looked upon as rank heresy to call them such, however good they might be and however well they might fill the pail. There is a certain class of men who seem to think that it is only the narrow-chested special-purpose dairy cow that is entitled to the name and can be in any way profitable to keep as such. To call Shorthorn cows or a herd of that breed by any name applicable to the strictly dairy breeds is quite a misnomer, according to their ideas; and should you propose taking one of them to see a good herd of dairy cows, I don't know but some of them would be as much surprised to see a herd of Shorthorns with all the outward signs and evidences of being producers of milk in large quantities as they would to see a—well, I was going to say buffaloes—Herefords or Polled Angus cattle. No, the Shorthorns must not be called dairy cows; they are dual-purpose cows, which I suppose means cows for two purposes, or that they make half milkers only and then about a half carcass of beef. I rather think that that is something like the idea some men have. Let us leave such to judge by the results of the trials and tests above given and made at the London Dairy Show.

That the dairy Shorthorn is a general-purpose cow, filling the wants of the general farmer who depends in part only on the dairy for making ends meet is a generally acknowledged fact. No other breed of cattle has yet found so much favor among farmers as the Shorthorn. I am not by any means arguing that the majority of them are good dairy cows; it is only a small proportion of them that are really such, and they are those that have been continuously bred and used for that purpose, which, of course, includes being regularly milked, as cows that are allowed to suckle their calves are in no sense of the word dairy cows, neither can they be made such as long as that practise is continued. Neither do I say that they are the best cattle to keep under all conditions, nor that they answer best for all the purposes of the dairy in all situations and under all circumstances. By all means, let the man who makes a specialty of dairying in any form have his special dairy cow, of the breed that best suits his purpose, or it may be his fancy perhaps; and should that fancy give him a leaning toward Shorthorns, all I can say is that, if he makes his selections with due care and judgment, he will do about the right thing, provided always that he is favorably situated for keeping that class of cattle.

Robt. Ashburner.

Lakeville, Sonoma Co., Cal., Dec. 14, 1899.

HORTICULTURE.

Chestnut Harvesting, Preserving and Preparation.

To the Editor:—The question of how to preserve, handle and prepare chestnuts, since the cultivation of that nut seems to be increasing all over the Pacific coast, is both an important and interesting one to discuss. It has been often put to me, as a propagator of that species of nut, and more recently by yourself, as you have requested me to reply to the inquiry made by P. B. Schmidt, one of your correspondents from Calistoga, reading as follows :

Kindly inform me through your valuable paper what is generally done with Italian chestnuts, after picking, to prevent molding? We have dried ours lightly in the oven, the outside air no longer being warm enough for drying them; but this did not prevent the rotting of a great many. Is there any particular process gone through in Italy or elsewhere whereby the nuts are prepared for the market?

I will answer this inquiry as clearly as I can, giviny you at the same time some new facts on the subject of chestnut culture, treated by me heretofore in the columns of the Pacific Rural Press.

Harvesting of the Nuts.—The proper way of gathering chestnuts has much to do with their preservation. The nuts generally ripen in October—here, in our mountains, mostly in the middle of October to the first of November. When time of ripening approaches the burrs turn from green to yellow, darker at the center, where they finally crack open, showing the brown hulls of the nuts inside; the nuts dropping to the ground when the burr is fully open, or the wind shakes them down. The nuts, to insure their thorough ripening, should be allowed to drop out of the burrs themselves for two weeks or more, they being picked from the ground every morning and put immediately to sweat ; after that time the remaining burrs and nuts are knocked off the trees by striking the limbs with long, flexible and slender poles, the same as is done with walnuts. A little wooden mallet is generally used to open the burrs falling to the ground and which do not burst open naturally, or holding yet one or two nuts. In European countries, where chestnuts are grown on a very large scale, women generally do the harvesting, using to that effect a forked stick to rake off the leaves that cover the nuts, the same stick being used to force the nuts out of the burrs, which are put in a little basket and then emptied into sacks, to be afterwards hauled away to the sweating grounds or shed.

Sweating and Drying of the Nuts.—Whenever chestnuts are intended to be eaten as a dessert nut, either roasted or boiled, they have, before being placed on the market and sold as fresh nuts, to go through a certain sweating process to take out of them their vegetation water and so prevent them from molding and rotting ; that operation has to be done at once, to prevent the mold from getting a start. The larger the nuts are the more important it is to dry them properly ; for instance, Marrons, the largest chestnuts grown, will require more time to sweat than the smaller nuts of the Italian and Spanish kinds, propagated solely from the seed on this coast. An evaporator or dryer, whenever one is at hand, can very well be used—but used intelligently—in drying chestnuts, for it would not do to dry them too hard. In Europe they simply place the nuts on ordinary trays made of willow, or trays with a wooden frame and screen bottom, so as to permit the air to get around the nuts, the trays being placed under the roof of a building opened at least on two sides, or in the shade, where the sun does not shine on the nuts ; but wherever there are heavy dews at night the trays have to be stacked, one on top of the other, or put under the roof of a building, till morning. According to size, chestnuts require from one to two weeks to dry sufficiently to keep, when they are then taken to market in sacks and sold fresh. But, if cured in a kiln or evaporator, it would take much less time, and I have an idea that nuts so dried would show a less percentage of molded ones, because the operation of drying, instead of going on gradually, would be done at once. I use prune trays, which are quite handy, for the drying of my crop of chestnuts. One can easily tell when the nuts are cured, for the shell must feel a little loose to the touch—that is, the meat somewhat shriveled, but fresh. Whenever the nuts have to be used at once, they are taken to market after a couple of days of natural sweating ; such ones are the best for roasting, but not so sweet as when they have been put to sweat a longer time. When chestnuts have been properly dried, they will keep well

in sacks or barrels for future use; to keep them a longer time they should be put in very dry sand and in a dry room, being taken out of the sand as fast as they are wanted.

For the manufacture of meal or flour, chestnuts have to be dried hard and every particle of pelicle removed; they then have a white appearance and are what is called "bleached." Bleached nuts keep indefinitely if stored in a dry room. A kiln or dryer would be the thing here on the Pacific coast to dry chestnuts hard for the manufacture of chestnut meal, which, cooked with milk, makes a delicious mush.

How to Prepare Chestnuts.—French and Italian chestnuts are always eaten cooked, that is, either roasted or boiled. They can very well be roasted in a deep frying pan with numerous holes in the bottom, being shaken constantly to prevent burning. The shell and pelicle of roasted chestnuts come off very nicely. The fresher the nuts are the better for roasting purposes. Chestnuts can be roasted on a small scale by placing five or six at a time on the hot kitchen stove with a tin cup over them, turning them once in a while till cooked. But before roasting chestnuts one has to be very careful to make an incision with a knife at the sprout or small end, to prevent the shell exploding and scaring the whole house.

Boiled chestnuts are also a fine dish. The shell has first to be removed, a pointed or pocket knife being best for this purpose. The nuts are then placed in a deep saucepan with water, salt and a sprig of celery. If the nuts are fresh picked it will take but one hour to cook them; but if a little dried, as when after they have gone through the sweating process, they would require from one and one-quarter to one and one-half hours to cook. Boiled chestnuts should be eaten when right warm, as the pelicle then comes off very easily. Immense quantities of boiled chestnuts are eaten in the chestnut-growing regions of Europe. They are also extensively used for stuffing turkeys, geese and chickens. This is the way our Thanksgiving turkey was stuffed with Marron chestnuts: The stuffing should be done one day in advance, the nuts being duly cooked in boiling water and peeled off, and the sausage meat to go with them previously fried, the liver, gizzard and heart of the turkey being cut up fine and mixed with it before frying. The chestnuts and sausage meat might be put inside the turkey separately; better, I think, to have both mixed. Such stuffing is really fine. As chestnuts can very well be kept till Christmas, as described in the course of this paper, such stuffing can be employed with the Christmas turkey.

Marron Chestnuts.—For dessert—that is, to be eaten either roasted or boiled—Marron chesnuts command the best prices on account of their size and beauty. As the term Marron does not seem to be well understood here, I will describe its true meaning.

In Bulletin No. XLII of the Delaware College Experiment Station, issued in December, 1898, I read under the head of "Spanish Chestnuts":

> Marron, Mammoth Sweet Spanish, French Marron and the like, a general name for European chestnuts with no varietal significance. "Marron" is the French name for the cultivated chestnut.

Good gracious! What a definition for the famous Marron de Lyon, Marron Combale and the fine commercial varieties of France! It would be well, it seems to me, for the writers of agricultural college bulletins to become better acquainted regarding the subject they treat before trying to enlighten the public themselves. "Marrons" are chestnuts, it is true, but all chestnuts are far from being "Marrons," and many of the cultivated varieties in Europe are not Marrons, neither, but mere seedlings. Marrons are varieties of chestnuts yielding only one to two nuts to the burr, sometimes three, but never four to eight, as is the case with seedlings. Hence the reason why Marrons are invariably propagated by grafting, as they very seldom come true from seed. It explains, too, why the nuts are so large and round, or flat only on one side, therefore the best marketable nut for dessert.

Marrons are more or less productive. The Marron de Lyon, the one that produces the greatest number of nuts with one nut in the burr, or round nuts, is a shy bearer, while Marron Combale and Marron Quercy, for instance, which produce the nuts singly and in pairs in the burrs, are enormously productive. I have a tree of Marron Combale on my place, now thirty-three years old, and a photograph of which was reproduced in the Pacific Rural Press of Dec. 31st, 1898, that bore 136 pounds of nuts that year, while this year (1899), and when everything, including apples, was killed on the night of April 27th, the same tree bore 153 pounds of magnificent nuts, just showing how hardy and productive are those French varieties of Marron chestnuts.

Blooming of the Chestnut.—Before closing I would like to call the attention of the owners of chestnut trees who complain that their trees are bearing lots of empty burrs that it is no defect of the trees or the variety for acting that way, as I will explain. Fruit and nut trees in general drop the blossoms or embryo fruits that have not been fertilized, for nature never intended to have all the blossoms perfect, as it would be fatal to the longevity, if not the life, of the tree. But with the chestnut the case is a different one, for at blooming time all the pistillate flowers will develop a burr which, whether fertilized or not, will hang on the trees, with this difference, that the unfertilized burrs will grow of a lesser size than the perfect one, but shed at the same time in the fall. How many young fruit trees we see covered with flowers in the spring, but finally, having but few fruits on, all the balance having dropped off, for the trees would be really unable to bear and ripen a larger crop! So it is with chestnut trees, and because the unfertilized or empty burrs fall at the same time as the perfect ones, when the nuts are ripe, is no reason why they should all be full of nuts. When a tree of the size of the Marron Combale, as represented in the Pacific Rural Press, yields 153 pounds of nuts, it is immaterial if 10% or more of the burrs are empty. At any rate, the larger and older the trees the fewer the empty burrs found on them.

Felix Gillet.

Nevada City, Cal., Dec. 12th, 1899.

Stanford University and the Fruit Growers.

To the Editor:—During their visit to Stanford University, December 16th, the fruit growers of the State of California passed the following resolution:

> *Resolved*, That we, the fruit growers of California, lately assembled in convention in San Jose, and now enjoying the hospitalities of Stanford University, hereby tender our hearty thanks to the foundress, president and faculty for their kind reception accorded us; and, while so doing, we venture to express a hope that, in the near future, the University's activities may be so extended as to embrace the needed facilities for such research and experimental investigation as shall raise the art of horticulture to the dignity of a science. That it seems to us particularly appropriate that in a land where horticulture is the leading industry, the resources of its educational institutions should be devoted, at least in part, to instruction on lines appropriate to that industry; provided such a department be entirely in consonance with the noble intent of its founders. That it is our earnest desire that the great success already achieved by Stanford University may even "multiply and still increase."

Happily Dr. Jordan's mind had been running in the same direction, and he announced his intention of resuming in February next those courses of lectures to fruit growers that some of us were privileged to enjoy in the years (I think) '91 and '92, Mr. Eben Boalt of Palermo, my son and I being the only three "graduates" of the class of '92 who were present yesterday. The class was a small one, but enthusiastic to learn; and I don't think one of us considers that he was out of pocket, or that he lost any time by attending, though what we *don't* know still would at least "fill a book."

In reply to some remarks by Prof. C. W. Childs, Dr. Jordan also stated that he hoped it would soon be possible to extend the usefulness of the university by the addition of a department devoted to horticultural and agricultural investigation and research, with adequate experimental grounds and appliances, and expressed a wish that he might be so fortunate as to be able to allure Mr. Luther Burbank from the Santa Rosa home he has made so famous to become director of such a department. To which wish you may be sure every fruit grower responded with a fervent, if inward, "Amen."

Mr. Burbank, by the way, attended the Fruit Growers' Convention this year, I believe for the first time, and gave his brother fruit growers the pleasure of shaking him by the hand and tendering him, what no man more richly deserves, their profound gratitude for what he has achieved, not only for his State, but for the world at large; and no man ever wore his honors more modestly.

Monterey. Edward Berwick.

ENTOMOLOGICAL.

Scale on Marysville Orange Trees.

Some drastic measure must be employed to get rid of the scale insects infesting Marysville orange trees. As you are doubtless aware the culture of citrus fruits is rapidly becoming a very important commercial industry in this section of the State. The city of Marysville by virtue of the fact that its property owners foster scale infected trees is not only not allowed to participate in this new industry but is a standing menace to the development of the business in near-by districts. In horticultural circles Marysville people are greatly blamed for their indifference and apathy in retaining these scale infested trees. No nursery business can be established in Marysville for the reason that scale on the old trees would quickly spread to the young trees and ruin their sale. Thus the town is deprived of an important industry and in turn the value of city real estate is lowered. Now as to the remedy: It is not practical to rid the trees of scale by either spraying or fumigation. It has been found that a great many of the badly infested trees have been planted so closely to the houses or residences that they cannot be operated on successfully. There remains, then, but one other thing to do and that is to cut the trees back. Cut off all the foliage and burn it, then scrub the trunks with a strong soap solution. This method of treatment will not hurt the trees in the least—in fact, it will greatly benefit them and the old scraggy trees will renew themselves in one season.

All of the foliage on every citrus tree in Marysville should be cut off as soon as the present crop is removed. This old foliage should be at once carefully burned and the trunks of the trees should then be scrubbed in order that any remaining scales may be destroyed. I can assure you from a knowledge gained by practical experience, that this method of treatment will not permanently injure the trees. They will make a new growth in one season and thereafter produce good merchantable fruit. City pride should prompt us to get rid of these unsightly and dangerous scale infested trees. Will you give this matter your earnest attention?

G. W. Harney,
Horticultural Commissioner, Yuba County.

Plant Large, Heavy Seed.

The United States Department of Agriculture by a long series of experiments has demonstrated that only large, heavy seed should be planted. Numerous investigators in this country and in Europe have found that heavy seed wheat, barley, oats, etc.; produce heavier crops than lighter seed of the same variety. Farmers frequently experience difficulty in obtaining a good stand of grain. Sometimes the seed comes up very unevenly, producing plants of unequal height and vigor. The weaker plants, if they grow to maturity, produce a smaller crop. Many weak plants perish in the seedling stage. If any of the seeds are lacking in vigor, even though they may germinate, a sudden change of temperature, or a prolonged, or a slight frost, is apt to destroy the plants while in a young and tender condition. The seedlings from heavy seed always show more vigor than those from light seed. If you want to insure your crop to the greatest possible extent against unfavorable conditions—if you want to increase the yield—plant only heavy seed. To plant pinched, weak, little seed is ruinous.

Irrigation Investigation.

The new Forest and Water Society proposes to put a corps of competent surveyors in the field, and after giving them all the data obtainable from the Department of Agriculture have them finish up the investigations as to the amount of water in the streams, the volume of power to be obtained and the feasibility of constructing storage reservoirs. When these investigations have been completed it will be possible for the organization to know exactly what they want to ask the State for.

Though it will require considerable money to follow out this plan of campaign the members of the committee are confident that the amount can be obtained and the suggestions made in the convention as to raising funds will be carried out. Boards of supervisors, banks and public-spirited citizens will be asked to contribute, besides which it is the intention of the Association to form chapters in each county of the State, and these respective chapters will look out for appropriations in their own counties.

Elwood Mead of the United States Department of Agriculture has offered his services, which have been gladly accepted.

Horse Show in Paris.

Arrangements for a gigantic horse show in Paris next year are now complete. The regular Concours Hippique, organized annually by La Societe Francaise Hippique, will in 1900 take place in the Cours Fontenoy, the military school of Paris. Instead of lasting three weeks, it will only extend for the last two weeks of May. It will be followed immediately by an international horse show, which will be held from May 28 until June 2.

The site for the forthcoming show is a magnificent oval. The course meas ures 160 meters by 50, around which stands for 12,000 persons will be built. Invitations to participate in the competitions will be sent to all foreign societies and to prize winners in previous shows here and abroad. Traveling expenses of all horses that may be entered will be paid by the committee. One hundred thousand francs ($10,000) will be given in prizes.

Sheepmen to Consolidate.

A dispatch from Billings, Mont., says representatives of the American-English syndicate have been in this State all summer and fall, traveling all over the large sheep-raising sections, securing options on the best sheep ranches and best watered land for the purpose of consolidating them into one large company. Already options on nearly 500,000 head of sheep and 500,000 acres of the finest and most fertile sheep raising land in the State have been obtained.

The representatives of the syndicate in Montana are Col. E. C. Waters and Edward J. Morrison of Billings, both old, experienced and successful Montana sheepmen. Bert Reiss of New York is counsel and organizer of the company, which will be known as the Montana Con. Sheep & Lamb Co., with a capital of $10,000,000.

AGRICULTURAL REVIEW.

CALIFORNIA.

Alameda.

HOP PRODUCT.—Livermore *Herald*, Dec. 16: The Pleasanton Hop Company is loading twenty-five cars of dried hops to he shipped to London. The shipment comprises 2006 hales, each bale weighing 195 pounds, which makes 391,170 pounds of dried hops. As it takes three and one-half pounds of green hops to make one pound of dried hops, there would be 1,173,560 pounds of green hops in the shipment. This does not comprise all the year's crop, as 590 hales have been shipped heretofore. The season's pick has now all heen shipped.

Butte.

SPLENDID VOLUNTEER.—Biggs *Argus*, Dec. 15: Some farmers report fine stands of volunteer, and even should they he unahle to plant a portion of summer-fallow the volunteer will produce five or six sacks of wheat. William Looney has a 125-acre field of volunteer that hids fair to rival a summer-fallow planting.

FREIGHT SHIPMENTS.—Chico *Enterprise*, Dec. 14: The freight shipments by rail from Chico during the month of Novemher were as follows, in pounds: Grain 185,500, hay 263,300, dried fruit 551,755, canned fruit 251,000, nuts 55,000, live stock 62,400, and wool 78,400.

FARMERS ANXIOUS.—Gridley *Herald*, Dec. 16: Farmers on the hig ranches on the adobe lands are duhious ahout getting their grain sown. On the Pratt Grant not 10% of the land has heen sown, and on many other large ranches not a grain has heen planted. The land is full of water, and as the days are short and the sun very low, it would take several weeks of continuous dry weather to make it possihle to get onto the land. In the neighhorhood of Nelson there are at least 20,000 acres of adohe lands which from the present outlook will not be sown. About Gridley and Biggs there are as many more.

PIONEER CITRUS ORCHARD.—Oroville *Register*, Dec. 14: In the spring of 1886 a numher of husiness men organized the Oroville Citrus Association. They hought a tract of land in the colony of Thermalito, cleared it, set out twenty acres of orange trees, and thus started the first orange grove on a large scale in the county. From time to time they have added to their land and increased the number of their trees. They now have 4000 trees in bearing and own sixty-five acres of land. They employed, soon after the trees were planted, D. H. Murray as superintendent of the grove, and he has had charge ever since. The shipments made each year from the grove are large and orders come from nearly all parts of the Union. Judge C. F. Lott is president and P. R. Persons vice-president, Jas. C. Osgood secretary and E. W. Fogg treasurer of the association.

Contra Costa.

WHEAT IN STORAGE. — Martinez *Gazette*, Dec. 16: The study of the wheat situation in this State is interesting, and few have any idea of the vast amount of grain stored in warehouses. Through the courtesy of A. E. Blum of San Francisco, we are ahle to present statistics of the amount of grain in California to Dec. 1, 1899: Wheat, 15,998,280 centals; barley, 4,778,880 centals; oats, 235,700 centals. Amount of grain in the State for the corresponding period last year: Wheat, 6,494,800 centals; hariey, 1,264,200 centals; oats, 186,000 centals. Which shows a surplus over last last year on Dec. 1, 1898, of: Wheat, 9,503,480 centals; bariey, 3,514,680 centals; oats, 67,700 centals. It will he surprising to note that the bean crop this year to Dec. 1, 1898, is 245,342 sacks short over last year at the same time.

Fresno.

SHIPPING WINE.—Reedley *Exponent*, Dec. 14: The Alma Winery and Distillery will begin shipping wine in bulk hy carload lots to their New York house next week. There will not be less than 100 carloads in the first shipment.

ORANGE SHIPMENTS.—Sanger *Herald*, Dec. 16: Orange shipments from this station aggregate sixty carloads to date, and there will probably he five more during the coming week to finish the season's shipments. Prices are falling rapidly in the Eastern markets, the latest quotations heing $1.50@2 per hox f. o. b. for navels and $1@1.20 for seedlings.

POTATO CROP.—Sanger *Herald*, Dec. 16: New potatoes from the Kings river hottom are coming into market, and selling readily at $1.25 per sack. The potato crop of this country this year is one of the largest ever rsised. The yield is estimated at 252,000,000 husheis, or about 40,000,000 hushels larger than in 1897. The yield per acre this year is eighty-one bushels.

Los Angeles.

ORANGES FOR CHRISTMAS.—Covina *Argus*, Dec. 9: Never in the history of Covina have so many oranges heen shipped for the holiday trade. The shipments from this point for the past week have averaged eleven cars a day. Some of the packing houses are complaining of the shortage of cars. Picking for the holiday trade will probahly stop this week.

CONVENTION OF FARMERS' CLUBS.—Pasadena *Star*, Dec. 13: At the meeting of the Pasadena Farmer's Club plans for the convention of farmers' clubs of southern California, to he heid from Jan. 1st to 4th, were arranged. Prof. A. J. Cook, the State President, attended the meeting and stated that thirty clubs would he represented at the convention. Each club will furnish one speaker. The following committees were appointed: Reception—Prof. A. J. Cook, D. C. Smith, Dr. Geo. Ahhott, J. M. Huhhard, Harmon Cook, C. A. Day. Music—Thomas C. Stone (chairman). Decoration—C. W. Coman (chairman). Entertainment — Dr. George Ahhott (chairman), J. M. Huhhard, T. C. Stone. Exhihits—T. J. Ashhy (chairman), representing the Pasadena Deciduous Fruit Association; Jesse Knight, for La Canyada; C. A. Day, for Lamanda Park; Dr. S. M. Woodhridge, for South Pasadena; J. A. Chamherlain, for Linda Vista; J. O. Vosburg, for Sierra Madre; C. W. Rhodes, for Altadena. Among the prominent guests will he Prof. Louthridge, Prof. E. J. Wickson, State Quarantine Officer Alexander Craw and George H Maxwell. Among the local speakers will he President W. A. Edwards of Throop; Dr. Ward B Rowland, State Dairy Inspector; Dr. Woodhridge and W. S. Melick, the latter of whom will deliver the address of welcome and read a paper on "Legislation." The exhihits of farm produce, poultry and Belgian hares will he on a grand scale.

IRRIGATING COMPANY'S REPORT. — Covina *Argus*, Dec. 16: The report of the Covina Irrigating Company shows the amount of water turned into the company's laterals from all sources from Jan. 1, 1899, to Nov. 1, 1899, and the cost of running same. The average amount of water run by the company for 301 days was 157 inches per day. Of this 85 inches were secured from the San Gabriel river and the halance from the Lordshurg, San Dimas and Jackson wells. The Lordshurg wells were pumped for 187 days, the San Dimas well 190 days and the Jackson well 6¾ days. Of the total amount of water San Dimas furnished 20.2%, Lordshurg 25%, San Gahriel river 54.2%, Jackson .3%. Total expense of running this water per hour, 47½ cents for a head of 25 inches, this including general expenses, repairs to plant, interest and discount and office expenses. The report shows that while the average cost of running the pumped water was $7.43 per head of 25 inches for twelve hours, that of the river was only $0.675. When it is taken into consideration that during an ordinary rainy season ample water can he secured for all purposes from the river, it will he seen that the water will only cost the consumer a trifle over $2.70 per head of 100 inches for twelve hours.

Merced.

CATTLE SHIPMENTS.—Merced *Sun*, Dec. 15: The copious rains have made feed for stock so plentiful that there has been a considerahle influx of cattle. The conditions in this respect present a contrast to those of two years ago when so many cattle were shipped away to keep them from starving. Miller & Lux shipped thousands of cattle into their West Side ranches during the past few weeks. J. F. Michel shipped 2000 head into Merced in the last two months. A trainload containing 500 head arrived from Arizona this morning. J. W. Vaughn bought two carloads of milch cows for the Crocker-Huffman Company. These will be distributed among the ranchers who wish to sell milk to the creamery. They were bought in the vicinity of Santa Ana.

Monterey.

BEET GROWERS PROSPEROUS. — Castroville *Enterprise*: Our beet farmers all acknowledge that their crops have exceeded their most sanguine expectations. With very few exceptions farmers have all made money this year.

Placer.

OFFICERS ELECTED. — Auburn *Republican*, Dec. 15: Auhurn Co-operative Fruit Co. chose officers as follows: President, W. H. Curtis; vice-president, C. A. Young; secretary, J. E. Stephens. The ahove are all re-elections. During the season of 1899 75,000 hoxes of fruit were handled hy the company, showing a satisfactory increase in the volume of the fruit handled.

San Benito.

NEW HAY PRESS.—Hollister *Advance*, Dec. 15: A new hay press has been invented which compresses hay into cylindrical shape. The feed of hay is continuous, the tying heing automatic. The hales are cut off by an automatic knife into suitable lengths. The motive power is compressed air, and with a crew of five men the press has a capacity of eighty tons per day.

CROP PROSPECTS.—Hollister *Bee*, Dec. 13: Bernand Yturriate has returned to the luxurious pastures of Panoche with his hand of 6000 sheep. For the past two years the sheep have heen feeding in different parts of the State. The crop outlook at Panoche was never brighter than at present. In fact, old timers say it was never as good at this time time of the year. Volunteer grain is 6 inches high. Ahout 1500 acres have been seeded. There will he ahout 3000 acres sown in the valley this season.

San Bernardino.

WATER DEVELOPMENT, — Rediands *Facts*, Dec. 7: Water development on the Barton tract has heen much greater than is generally helieved. From the wells which have been completed a total of 235 inches has heen pumped. It is generally thought this might easily have heen doubled with larger pumps, as the amount pumped is not limited hy the supply, hut by the capacity of the machinery. The water pumped has been as follows: Schee Bros., 40 inches from two wells; Hawkens, 12 inches; Cook, 20 inches; Curtis, 43 inches; Toby, 17 inches; Hickey, 11 inches; Nocholas, 17 inches; Doty, 14 inches; Leedom, 20 inches; Oshun, 15 inches; James, 17 inches.

HORTICULTURAL COMMISSIONERS' MEETING.—Ontario *Record*, Dec. 13: The annual meeting of the Association of Horticultural Commissioners of Southern California, heid in Los Angeles, proved of more than usual interest. The following members were present: J. S. Fink, Ontario; H. H. Holmes, Corona; W. F. Budiang, Perris; R. P. Cundiff, Riverside; L. Z. Huntington, Anaheim; I. M. Rafferty, Santa Ana; A. R. Meserve, Los Angeles; T. T. Thomas, Monrovia; E. H. Rust, South Pasadena, and R. T. Curtis, San Bernardino. The following officers were elected to serve during the ensuing year: President, E. H. Rust, South Pasadena; vice-presidents, R. P. Cundiff, Riverside; R. T. Curtis, San Bernardino, and L. Z. Huntington, Anaheim. The draft of a hill has heen prepared hy the Association which is to he suhmitted to Congress, and which horticulturists generally hope will become a law. It is to estahlish a national quarantine law against infected nursery stock of all kinds imported from foreign countries, and contains other provisions of a similar nature to operate as an interstate law against insect pests and diseases.

San Joaquin.

NEW WINERY.—Stockton *Mail*, Dec. 11: A hranch of West's winery is to he huilt in Lodi the coming spring if the grape crop in the northern part of the county warrants the expenditure. It has heen customary for vineyardists in the vicinity of Lodi and Acampo to haul their grapes to Lodi, from which point they were brought by rail to the West winery in this city.

CROP PROSPECTS.—Stockton *Mail*, Dec. 14: The present rain is regarded with considerable concern, as it is feared that it will seriously injure the prospects of the wheat crop on adohe land. Summer-fallow has already received a good start in many places, and if the grain is not soon put in oats and other vegetation will choke it out even if there should he a chance to sow it later. It is said that more than one-fourth of the adohe land has heen seeded, and much that has been put in has been sowed on very wet ground and will not grow as well as it would have done if it had heen sowed under more favorahle conditions. There are as yet no fears of a failure of the crop on the adohe land, for hariey could he sown and would mature under favorahle conditions if sowed as late as March, hut the delay in putting in grain will undouhtedly result in a less yield than usual, unless clear weather should come very soon. On the sandy land everything is prosperous. Most of the summer-fallow is up and gives promise of a fine crop. The work of putting in the winter sowing is progressing rapidly, for plowing can be resumed the next day after a rain, and in most cases the only time lost is while the rain is actually falling.

San Luis Obispo.

CELERY GROWING.—San Luis Obispo *Tribune*, Dec. 15: Celery farming in this county has developed into a hig industry, and at the present time a carload a day is being shipped to the Eastern markets. It is raised in the vicinity of Oceano. To hleach the celery stalks and to give them the snow-white tint, it is necessary to cover them with dirt for a perid of ten days before they are cut for shipment.

Santa Barbara.

SUGAR FACTORY CLOSED.—Dispatch from San Luis Obispo, Dec. 13: The sugar factory at Betteravia closed for the season after a run of two and a half months. The average run was 400 tons a day, and several times the factory's capacity for 500 tons was exceeded. The capacity is to be douhled next season.

APPLE SEASON ENDED. — Lompoc *Record*, Dec. 16: Apple packing practically closed the present week with most satisfactory results to both producers and huyers. Between sixty and seventy carloads have heen sent out. Next year a packing house will he constructed with an evaporator attached capable of hoidlng the output of this section for some years.

IMPROVING STOCK. — Santa Barbara *Press*, Dec. 14: The movement of Santa Barbara stockmen, encouraged hy Veterinary J. H. Hester to introduce thoroughhred Ayrshire dairy stock from the East, is to culminate in success. An order for a carload of cattle will be forwarded, and so much interest has heen created that an additional order may go later, not only for Ayrshires, hut for other thoroughhred stock. It is also proposed to form a breeders' association in this county, so that intelligent progress may he made along the line of stock improvement. The lot secured for Santa Barhara will be all young stock. Those who are are in the list for one or more head are Dr. H. L. Stambach, H. F. Maguire, Dr. H. W. Moore, A. W. Canfield, W. S. Parks, Dr. J. H. Hester, A. C. Rogers and Peter Save of Santa Barbara; F. E. Kellogg, A. Langlo, Charles Emmons and E. Catlett of Goleta; L. B. Cadwell of Carpenteria; James Morgan of Montecito; John Rutherford, Napies; John Johnson of Lompoc. The car is expected to arrive shortly after the first of the year. Banners stating that the shipment consists of "Thoroughbred Registered Ayrshire Dairy Stock for Santa Barbara, California," will be displayed on the outside of the car.

Santa Clara.

FRUIT GROWERS' UNION.—Campbell *Visitor*, Dec. 9: The amount of fruit cured and handled hy the Campbell Fruit Growers' Union since its organization in 1892 is 18,823 tons, or 2353 carloads. It is impossible to state the exact value in money that these figures represent, hut enough is known to show that the Union has received considerable more than half a million dollars in the eight years.

Santa Cruz.

HORTICULTURAL COMMISSION.—Watsonville *Pajaronian*, Dec. 14: Santa Cruz county now has a Horticultural Commission. All possible encouragement and assistance should be given them in the campaign for tree pest extinction and clean fruit.

HEAVY BEET YIELD.—From four and a half acres James Waters harvested 36.22 tons of beets per acre this season, and the entire tract of six acres (which includes the four and a half acres reported) averaged a fraction over thirty-one tons—$140 worth of heets—per acre. There is genuine saccharine sweetness about such a showing. This is the hest exhihit ever made hy a Pajaro valley heet field, and if any other valley can equal it we would like to hear from it. This tract was surveyed at the time of planting and its exact acreage was known. It was planted with seed produced at the seed farm near Agnews, Santa Clara county, and the showing of heets and sugar is another victory for California. California hest seed, planted in a choice spot in California's richest valley, has produced a crop of heets that has not heen equalled on this continent in a showing of tons per acre. California beet seed had a thorough test and a fair trial and it came out a winner. Mr. Waters can well feel proud of the record.

Sonoma.

NEW EXPERIENCE WITH TIMOTHY.—Santa Rosa *Republican*, Dec. 7: Robert Adler is a farmer of the advanced school. He is always trying an agricultural experiment or two, and the hest of it is that he is making them go. He has a field sowed to timothy and another one to Australian rye grass. For years ranchers have held that timothy must be seeded each year in this State, hut Mr. Adler's timothy was sown three years ago and the fall rains have started it this year in record breaking style. He is also succeeding well with his rye grass.

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

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THE LAWRENCE-WILLIAMS CO., Cleveland O.

For the Baby

The fifty-cent size is just right for the baby. A little of it in the bottle three or four times a day will supply precisely the fat all thin babies need. If your baby does not gain in weight as fast as you would like, try

Scott's Emulsion

The result will please you. If the baby nurses, the mother should take the emulsion. It makes the baby's food richer and more abundant; only buy the dollar size—it's more economical.

Both mother and child will feel at once its strengthening, upbuilding and fat-producing properties.

At all druggists; 50c. and $1.00.
SCOTT & BOWNE, Chemists, New York.

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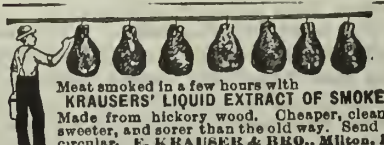
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THE HOME CIRCLE.

A California Christmas.

Can this be Christmas—sweet as May,
With drowsy sun, and dreamy air,
And new grass pointing out the way
For flowers to follow, everywhere?

Has Time grown sleepy at his post
And let the exiled summer back,
Or is it her regretful ghost,
Or witchcraft of the almanac?

While wandering heaths of mignonette
In at the open window come,
I send my thoughts afar, and let
Them paint your Christmas day at home.

Glitter of ice and glint of frost
And sparkles in the crusted snow;
And hark! the dancing sleigh-bells, tost
The faster as they fainter grow.

The creaking footsteps hurry past;
The quick heath dims the frosty air;
And down the crisp road slipping fast
Their laughing load the cutters bear.

—E. R. Sill.

"Son Mollie."

"How is your wife to-day, Mr. Kelly?"

"Very much as she was yesterday. She had a bad night."

"Humph! At her age it's hardly likely she'll rally." And John Harper, who really meant to be sympathetic, looked away from his neighbor. "I see you are waiting for the train. Expecting anyone?"

"Mollie is coming home."

"Mollie? Why her school hain't out, is it?"

"The holiday vacation commences next week. But, of course, she—"

"Now, neighbor Kelly," oracularly interrupted Mr. Harper, "I always told you it was a mistake the way you brung up Mollie. You let her come here to school till she graduated. Then she got that place to teach at Granville last fall. Forty dollars a month is a lot for a girl to learn, but she'll never be one bit of good to you. Even now—"

The whistling of the incoming train cut short his discourse. Mr. Kelly hurried forward, and the next moment was holding a plump little figure dressed all in brown in his arms.

"No better. The doctor says with good care she will regain her speech and the partial use of her hand and foot. Oh, Mollie, no one knows how it makes my heart ache to see her lie there with no sign of life save her great dark eyes!"

Mollie Kelly felt her old care-free girlhood slipping from her as she stood there under the gray December sky. And feeling this, there came to her that sweetest of all womanly gifts, the maternal, comforting spirit.

She pressed her father's hand close between her own as she said:

"Poor father! She shall have good care. Together we will nurse her back to health."

Then Mr. Kelly hurried away after the horse, and they were soon on their way. During the drive Mollie learned that the doctor had insisted on a trained nurse to care for her mother. Also that her cousin Laura, the daughter of Mr. Kelly's brother, was doing the work for the family.

The first sign of consciousness shown by Mrs. Kelly since the paralytic stroke two days before, was when her daughter bent over the bed and tenderly kissed her. The doctor was present and keenly watching Molly. He half expected a scene. The young girl grew very pale, but retained entire control over herself, soothing the sick woman with loving gentleness.

The next day the doctor consented to Mollie's taking the place of the nurse. The relatives of the family, especially "Aunt Manda," Laura's mother, questioned the wisdom of giving so grave a responsibility into the hands of a girl "who don't know nothing but school books." However, Dr. Greaves, who had known Mollie since her birth, so emphatically forbade any interference in the sickroom with Mollie authority that even Mrs. Manda dared not disobey.

Two weeks passed by. While there was a decided improvement in Mrs. Kelly, the utmost care and vigilance were still required.

Late one afternoon Mollie left her mother sleeping and entered the sitting room. Her face had lost some of its wild-rose bloom during the days and nights of anxious watching. Mollie's eyes were brown, and had a habit of looking straight into the face of the person she addressed. Her hair was a shade darker than her eyes. She had firm red lips and a dimpled chin.

She stood, her hands clasped before her, gazing into the huge fire that crackled and roared in the old-fashioned fireplace. On hearing her father's step, she turned.

"Sit down, father," she said, drawing his armchair up to the fire. "Mother is sleeping, and I have been writing to Mr. Hardy, the president of the School Board at Granville. I have resigned my position."

"Why, Mollie, you must not do that."

She laid her hand on his lips. "I can not leave mother, even if a nurse could take my place, and Dr. Greaves thinks a change would be harmful. You would have to pay her ten dollars a week—just what I earn."

"It is not the money, child," Mr. Kelly said. "Your being here is everything to me, but mother and I always wanted to give you the best of a chance."

"Could anything be better than this? I spoke of the money, father, because I have always wanted to help you as much as a son would. You remember you used to call me 'son Mollie.'"

In a short time Mrs. Kelly was able to sit up part of the time. Mollie then began to oversee the housekeeping, much to Laura's disgust.

"I know just how things ought to be done a heap better than you do, Mollie," she declared one afternoon when Mollie insisted on the pantry being cleaned. "Hain't I helped your ma for the last three summers, jest fur an accommodation? Of course, I hain't a hired girl."

"That puts a different face on things," Mollie said, standing on tiptoe to sweep down a cobweb. "If you were not a hired girl, if you did not expect pay for your services, I would not think of asking you to clean the pantry. But I heard your mother ask father for your wages last night. If you are a hired girl you may set bread to-night—make only half the quantity you usually do. It gets too dry. I am going to make sugared doughnuts. You have half starved us, Laura."

Miss Laura Kelly retreated to the pantry, slamming the door behind her. She was a dejected-looking maiden of twenty-six, tall, lank, with faded blue eyes and red hair, which was always in curl papers.

Mollie was busy over her doughnuts when her father, his coat and hat frosted with snow, entered.

"Sit down," she cried, merrily, "and see if my doughnuts are not almost as good as mother's."

Mr. Kelly obeyed, his wrinkled face beaming with contentment. It seemed so good to him to see Mollie intent on household duties.

"Father," she said, as he broke the second cake, "why can't you put up ice for butter next summer in that old tenant house? Did I not hear you say you thought of selling one of the cows?"

"Yes. There are five, and your mother thought she could manage. But you and Laura can't."

"Does butter pay?" she asked, deftly rolling her crisp, brown cakes in the sugar.

"Most the best of anything on the farm."

"Did not Mr. Harper want you to take a cow for what he owes you?"

"Yes; and if I get anything I'll have to. Perhaps I can sell her, though cows are cheap."

Mollie carefully lifted her kettle of lard to the table and sat down by her father.

"I can make butter," she said, nodding her head. "Take the cow of Mr. Harper, and that will make six. We have a good barrel churn. Let that young German, Carl Verner, come to-morrow and cut ice for you."

"Don't you suppose Algernon would like the work?"

"Doubtless he would like the pay and let you do the work. I don't want you to work so hard, father."

In a few moments Mr. Kelly went back to the barn. The pantry door had been adjar. Laura now emerged.

"I don't know what you air thinkin' of, Molly Kelly," she began. "Six cows! I can't do the work for 'em, I want you to understand that."

"All right," Molly replied, cheerily. "If you have the pantry cleaned you may bring up a basket of Tallman sweets and get them ready to bake."

"What did you mean 'bout Brother Algernon?" Laura asked angrily.

"Oh, you listened to that, too. Well, I meant that Carl does twice the work Algernon does for the same pay. I am going to read to mother now. You keep up a good fire, and I will come and make cream toast for supper."

The following week Mollie discharged Laura. "Aunt Manda" tried to argue with her, but Mollie said she had engaged Carl Verner's mother to come each week and wash.

"I can do the rest until there is more milk and hired help. I am glad to save father a dollar and a half a week."

Mollie begin to read up about chickens in the agricultural papers, and soon had several hens sitting. She had a long talk with her father concerning financial matters. She learned that while the farm was clear from mortgage and no debts it was growing harder each year to meet expenses. Mr. Kelly also said that the low price of grain threatened him with still further embarrassment.

"Then raise less grain or feed it on the place, as the agricultural papers advise," Mollie said gravely. "Let me raise all the calves this year, and keep those young pigs you talked of selling."

"Do you think it will be best, Mollie, 'son Mollie?'" and with the old pet name the farmer's worn face brightened.

"Oh, child, I wish you knew how good it seems to talk things over with you. I am glad you are a girl, just the girl you are, for no one but a daughter could have cared for mother as you have. And, Mollie, you are more comfort and help to me than a boy could be."

"Thank you, father," she said, her brown eyes swimming in tears. "I would rather have the memory of them than a college diploma."

Two days after this conversation there was consternation in the house of Thomas Kelly. Algernon had learned at the village that Carl Verner and his sister Bertha were to work the following summer for Mollie's father.

Algernon and Laura had for several summers worked for their uncle. They always demanded good wages, and as they worked for "an accommodation," and were both "weekly," the result had been that Mr. and Mrs. Kelly had done by far the greater part of their own work.

Mrs. Manda hurried over to her husband's brother. He was not at home and she received little satisfaction from Mollie.

"Father cannot do so much hard work himself," she said, plainly. "Then Laura told me she would not do the work there is to be done here. I am sure we have a right to do what is best for our own good. No, you are not going in to vex mother about it," and Mollie slipped between her aunt and the sitting room door.

"Mollie Kelly, how dare you speak to me like that."

"I will tell you how I dare!" Mollie came a step nearer, her eyes glowing like coals. "You know that Dr. Greaves has said mother's life depended upon her freedom from excitement. I would dare anything, even personal violence, to keep you from annoying her."

Mrs. Manda saw her niece was in earnest and departed, still very angry. Mollie cried a little when she was alone. But she soon wiped her eyes and prepared her father's favorite beef stew for dinner.

The balmy days of May came, and Mrs. Kelly had improved rapidly. All things at the farm were at their best.

In the kitchen Bertha presided—stout, ruddy-cheeked Bertha—her blue calico sleeves rolled above the elbows of her strong arms, her head almost bowed under its weight of flaxen braids. She had spent the summer before in the kitchen of a capable housekeeper, so Mollie found her own lack of knowledge often supplemented by Bertha's skill.

Out of doors the change was even greater. Mr. Kelly was surprised by the amount of work done by merry Carl, and found much less "day help" needed than in former years. They found time to work among the berries and small fruit; the garden was in early and free from weeds, and Mollie's chickens and calves prospered.

As for Mollie herself, she never found time to miss the round of social duties that had filled her days. There were many people in the community, and the village where her school days had been spent was distant only by an hour's drive. She had plenty of books, papers and magazines, but it was through Bertha that one of Mollie's pleasures came about.

One day Bertha asked Mollie to address an envelope for her. She was proficient in German, but confessed that she could not write English.

"I am ashamed," she said, the blood staining her fair cheek. "Gretchen, my little sister, goes to school, and last winter she taught me to read a little English. Some day I shall learn to write it."

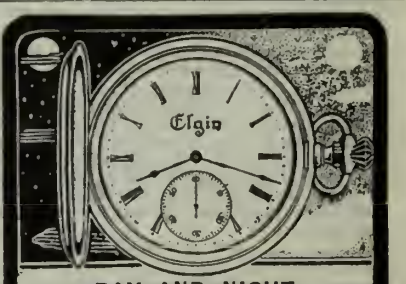
Mollie thought the matter over. The result was she began teaching Bertha, and in return received help from the latter in the study of German. This had not been included in her high-school course, but while teaching she had been a member of a German class.

There was little leisure time, yet they managed to accomplish a great deal. They learned to have a book open while they brushed their hair or ironed. They soon came to enjoy each other's company. Mollie never tired of hearing of Bertha's German home or of her journey to America. While to the foreign girl the other's accounts of school life were more interesting than fairy tales.

When June days began to paint the cherries on the many trees around Mollie's home with carmine, and the early raspberries began to ripen, Mrs. Manda began to grow more friendly.

"Shall I come over this week after berries, Mollie?" she called out on Monday morning, driving her old horse as near as possible to the line where Mollie was hanging out a week's wash. "And the cherries—why, some one is picking the early ones."

"Yes; I hired Freddie Myers for to-day. I promised Mr. Harmon that he should have three bushels of cherries this afternoon. The later one's will



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not do until next week. Then I shall be glad of as many pickers, to pick on shares, as I can get. As for the berries, Bertha and I can manage all that will ripen this week. The early ones will bring the best price."

There was a pause. Mollie was quaking with something much like fear. Her parents had never thought of selling the fruit, and Mrs. Manda had always helped herself to the best.

"Do you mean you air goin' to sell the cherries and berries? Why, Mollie Kelly, I should think you would be ashamed of yourself."

Mollie pushed back her bonnet and faced her aunt. "Why not sell fruit as well as grain? Aunt Manda, father needs the money. Instead of being ashamed I am proud that I can help him."

Mrs. Kelly was too astonished to reply. She started for home, and Mollie went on with her work.

The next too weeks were busy ones at the Kelly farmhouse. Cherries, currants and raspberries were delivered at the village every day.

Work in the house was lightened a little by the proprietor of a summer hotel a few miles away contracting with Mollie for a gallon of cream every day. He was also to take fruit, eggs, as many vegetables as they could spare and the young chickens.

Mrs. Manda and Laura waited ten days. Then they drove up one afternoon with three pails.

"The berries were all picked this morning," Mollie said, coming down stairs neat and cool-looking in her black skirt and pink shirtwaist. "If you want cherries, you can pick in those trees by the well. I am going to the village with two bushels of cherries and thirty quarts of berries.

"Humph!" It was Mrs. Manda's sole reply.

"Stay to supper, both of you," Mollie went on, cordially. "I am going to have red raspberry shortcake."

Neither of them thanked her. However, when she returned she found her invitation had been accepted.

"It's too bad you will use baking powder, Mollie. No one can make a good shortcake with it."

After supper Carl brought around the horse of Mrs. Kelly. It was not until she picked up her pail that she said:

"You ain't took your share of these here cherries, Mollie."

Mollie hesitated. Plainly her aunt did not expect her to do it, and it did seem small. Still, to retreat now meant defeat. One moment, and she stooped for the pail.

"Too bad to keep you waiting," she said, blithely. "It will take me only a moment."

"Mrs. Manda's face flushed. "Maybe you better take 'em all," she said savagely; but Mollie was at the other end of the kitchen, and if she heard, made no reply.

After the expenses of picking the fruit were paid, thirty dollars remained from the sale of it. The proprietor of the hotel continued to take the cream until late in September. He paid a good price for early apples, the few fine pears they could spare and a part of the grape crop. The rest of the grapes were carefully shipped to the city, and netted the Kellys a neat sum.

Mollie's wisdom in urging her father to keep the pigs was manifest when pork brought a good price. Mr. Kelly had never made as much money in one year before, and his farm was in better shape than for a long time. Plans were laid to keep more cows another year, and a variety of small fruit was to be put out.

Mrs. Kelly's health had continued to improve. It was evident she would never be strong, but she was free from pain and able to do some light work.

"Farming is not the vocation for which I was educated," Mollie said to her friend Mabel Joy, who visited her at holidays; but I am needed here. We will make more money than if I taught, hired my board and mother kept a girl all the year. I feel, too, that I am not filling the place of some girl who must earn her living and has no home. I am happy, and I make my parents so. We have good society. Now that we have organized a reading circle, I shall keep up a regular course of study. So, Mabel, I have found my 'sphere.' It is the junior membership in the firm of Farmer Kelly and Son Mollie."

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We are a home-loving people, and to the right-minded man and woman the sweetest place on earth is the home; and because this is true our nation has steadily grown and developed until it is the greatest in the world. Good government in the State and nation follows naturally upon good government in the home.

Much of our nation's honor and greatness is due to woman, for upon her watchful love and care depends the strength of home and of those who go out from it.

Everywhere woman is taking a greater interest in the questions of the day than ever before in history. She is identifying herself with all great movements for the betterment of mankind—tenement-house reform, public parks and play grounds, vacation schools, sanitation and cleanliness, the abolition of the sweating system and many other reforms where her influence is being felt for good. Because her own home is safe and happy, she desires all others to be so.

Never before has woman's interest been so aroused in economic questions, especially household economies. She demands the best in her home, and, because of this, she is fostering and encouraging cooking and sewing classes and industrial work of all kinds, which, through her influence, will soon be a part of every school's curriculum. Such an education will make our homes the best in the land.

Many of our colleges are now giving regular courses in domestic science, and the college girl graduate is fast demonstrating that a knowledge of hygiene and chemistry is as necessary in the home as elsewhere. Best of all, our college graduates are organizing classes where the poor children of our cities and towns may be given instruction in these useful branches which they so much need and can apply so well in homes where there is a sad lack of all that is helpful and beautiful.

In a "housekeepers' club" recently formed in a Western city, the members meet weekly for the discussion of domestic topics. Among the subjects discussed are the following: "The Food Bill of the Family," "The Expenditure of the Family Income," "How the Work to be done in the Average Family Shall be Best Apportioned to the Working Days of the Week, and the Best Methods of Performing It," and many others.

Such discussion will aid greatly in arousing earnest thought and work from our women, and an interchange of experience is always helpful.

Is there not a suggestion here for some of our farmers' wives to organize domestic science clubs, where "mutual help" will make them a power for good in their several communities?

The Secret of Success.

What is the secret of success? At first thought, most any one will tell you industry and economy, and yet we find people who practise both all their lives and do not attain to great success; while, on the other hand, we see people who spend money with a lavish hand and wear purple and fine linen and fare sumptuously all their lives, leave a competence at their death. Surely good management is required.

As a rule, no one succeeds who does not bear burdens in his youth, and this is one reason why the children of rich parents do not become successful leaders in business affairs. They are too often permitted to shirk and to idle away their time. Hence, they do not learn the value of money as the poor, who are obliged to earn it by the sweat of their brows, instead of having it fall to them by inheritance and without struggle. Riches thus obtained take wings and fly away.

You frequently hear a man say that the world owes him a living. No greater mistake was ever made. The world owes him nothing. If he works, the world will owe him for his labor and will pay him, but, if he does not work and goes whining that the world owes him a living, it will laugh at his calamity. Nature is rigidly impartial. She has no pets nor favored ones. The believer in luck belongs to the same class with the man who says the world owes him a living. The believer in luck who sits idly by to await her coming will find her a slippery jade that delights in jilting her wooers.

Whatever calling you choose be faithful and true to it. Make it your sweetheart. Jacob worked fourteen years for Rachel, and the Bible tells us that they seemed as so many days, so great was his love for the girl.

You must be in love with your calling. You must toil and labor in youth, and not wait until the sere and yellow leaf of age falls upon you. Huntington, Hopkins, Crocker and Stanford built the overland railway thirty-five years ago. They were young men then. No four men in history completed a greater undertaking, for they were pioneers in taking railroads over the mountains. If all were alive to-day and had the same facilities, they would not succeed because of advanced age. Youth will take risks. Old age becomes conservative. All the great military chieftains of the world gained their victories when young. Youth will spend the millions of treasure and sacrifice the lives required in successful war. Old age becomes conservative and tender of human life and cannot win victories. Choose your profession or business calling and cling to it, as did Ruth to Naomi.—Hon. John T. Campbell.

Double Your Income

If your present employment does not take up all of your time, it is quite possible that you can double your income by taking the agency for your town for

The Ladies' Home Journal
AND
The Saturday Evening Post

You can surely make every minute of your time profitable.

We want energetic workers to secure new subscribers and renewals.

We allow liberal commissions. Also, liberal rebates for large clubs.

And, in addition, we are going to reward 764 of our most successful agents with $18,000 at the end of the season.

You may make five hundred or a thousand dollars during the Winter in addition to commissions that would ordinarily be deemed ample compensation for the work.

Write.

The Curtis Publishing Company, Philadelphia

DOMESTIC ECONOMY.

Domestic Hints.

VEGETABLE TURKEY.—Mix well together three cups of chopped nuts (one or more kinds), three cups of dry bread crumbs, three cups of milk, one tablespoonful of nut butter dissolved in some of the milk, one and one-half tablespoonfuls of finely powdered and sifted sage and three teaspoonfuls of salt. Lastly stir in six well-beaten eggs. Bake twenty minutes in a hot oven and serve hot with brown gravy.

STEWED OKRA.—Cut off the stems of each okra pod, also the tip if discolored. Wash and drop whole into a granite saucepan, cover with boiling water, add one-half teaspoonful of salt and boil until tender—from twenty to thirty minutes. Drain and, for a pint, return to the saucepan with one tablespoonful of butter, one tablespoonful of vinegar, pepper and salt to taste, and stew very gently for ten minutes before serving.

CRANBERRY TARTS.—Take one-half of a cupful of very cold, thin, sweet cream, add to it the stiffly beaten whites of two eggs, and whisk all together for ten minutes. Add sufficient flour to roll, cut to fit the pans, bake quickly, but do not brown. For the filling stew a pint of cranberries in half a pint of water until soft. Rub through a colander, add one cupful of sugar, and let cook until it is all dissolved. Pour it into the tart shells, and set away to get very cold.

MINCE PIE.—To make delicious mince pies take two cups of boiled beef minced fine, six cups of apple chopped fine, one and a half quarts of sweet cider, or boiled cider reduced, one cup of current jelly, the grated rind and juice of two lemons and two oranges, two cups of sugar, one teaspoonful each of salt and cinnamon, one teaspoonful each of cloves and allspice, a half teaspoonful of nutmeg and pepper, two pounds of seeded raisins, one pound of currants, a quarter pound of citron cut in pieces, one pound of suet shredded fine and one cup of candied orange peel chopped fine. Cook until apples are tender, fill cans and seal until ready to use. This recipe will make six pies.

Hints to Housekeepers.

Put some salt on your fire when burning refuse, such as vegetable parings, etc., and there will be no unpleasant smell.

Don't overdo doilies as a decoration; and if those embroidered in colors are used, see that the colors harmonize or contrast pleasingly.

To remove mildew, rub common yellow soap on the damaged article, and then sift some starch on that. Rub well and put out in the sunshine.

A damp cloth held over the mouth and nose, or, better, made to envelop the whole head, will enable one to pass through the most dense smoke without suffocation.

Pineapple sherbet is recommended by dietary experts as particularly suitable with a course dinner, pineapples being known directly to aid digestion. It is made from the grated canned pineapple, a pint of which should be cooked in a pint of water for fifteen minutes. It is then strained through a cheese cloth, and to the juice is added one teaspoonful of granulated gelatine, softened in a quarter of a cup of cold water, the juice of a large lemon and a cup of sugar. Strain and freeze.

Prunes afford the highest nerve or brain food, supply heat and waste, but are not muscle feeding. They should be avoided by those who suffer from the liver. The great majority of small fresh seed fruits are laxative. All stone fruits are considered to be injurious for those who suffer from the liver, and should be used cautiously. Oranges are refreshing and feeding, but are not good if the liver is out of order. Lemons and tomatoes should not be used daily in cold weather; they have a thinning and cooling effect.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Dec. 20, 1899.

Chicago Wheat Futures.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	65⅝@66	69⅛@69⅝
Thursday	65⅛@65⅞	69⅛@69¾
Friday	66¼@65⅞	69⅜@69¾
Saturday	65 @65⅞	68⅞@69⅞
Monday	66¾@67⅛	69⅞@71¼
Tuesday	66¾@66⅛	70¾@70⅞

Liverpool Futures.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Mar.	May.
Wednesday	5s 9⅝d	5s 9⅝d
Thursday	5s 9⅞d	5s 9⅞d
Friday	5s 10 d	5s 9⅞d
Saturday	5s 10½d	5s 10 d
Monday	5s 11 d	5s 11 d
Tuesday	5s 10⅝d	5s 10⅝d

San Francisco Futures.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	May.	Dec., 1900.
Thursday	1 04⅜@1 05⅛	1 09⅜@——
Friday	1 04⅝@1 04¼	1 08⅜@——
Saturday	1 03⅞@1 04⅜	——@——
Monday	1 05⅛@1 06¼	1 09⅛@1 10¼
Tuesday	1 05⅛@1 05	1 09⅛@1 09⅜
Wednesday	1 05⅛@1 04⅞	1 09⅛@——

Wheat.

It is a relief to be able to state that the market for wheat showed a little more firmness than last week. The improvement was not marked, however, and was confined more to speculative values than to prices for spot offerings, but it is better, even though the change be small, to have it in the upward direction than the reverse. The firmness was based mainly on the English reverses in South Africa, although unfavorable weather for seeded grain was reported from Russia and some other sections less prominent. Chicago showed an advance for the week of about a cent per bushel for December option. Liverpool futures moved up the equivalent of 2¼c per cental, and local Call Board advanced about 2¼c, but over a cent of latter advance was subsequently lost. In the spot market milling wheat was practically unchanged, but shipping grades were held about 25c per ton higher than a week ago. Market to-day (Wednesday noon) closed weak.

The United States Department of Agriculture, through Statistician Hyde, issued the past week its estimate of the wheat crop of 1899 in this country, placing the same at 547,300,000 bushels, 291,700,000 bushels being Winter wheat and 255,600,000 bushels Spring wheat. The average yield per acre was 12.3 bushels. The newly seeded area of Winter wheat for the crop of 1900 is given at 30,150,000 acres, being 200,000 acres greater than sown in the fall of 1898, but these figures are not complete, as sowing is still in progress in a number of the southern States, as also in California. The figures above given for yield of last crop, 547,300,000 bushels, are 127,849,000 less than the yeld of previous year, according to the official figures, the crop of 1898 having been recorded at 675,149,000 bushels. The report of the Department of Agriculture had a bearish effect upon the market, the figures being larger than many had previously estimated. With a good foreign demand, however, the market would speedily stiffen, regardless of Government statistics showing a little more wheat than had been previously calculated on. The English reverses in the Transvaal were bullish in their effect on the speculative market, in being likely to lead to more serious foreign complications later on, with a probability of upsetting the peace of Europe. In the latter event wheat would certainly find more friends than it has been favored with lately. The conditions abroad, however, would have to be decidedly strong to develop much firmness in wheat on this coast. With most of last crop still on hand in this State, with large stocks here as also in Oregon and Washington, with prospects very good for growing crop, and with ships continuing in light supply and with freight rates high, it can be readily seen that wheat locally is having to work against heavy odds. Should foreign markets improve, shipowners would endeavor to exact the benefit for themselves by establishing higher freight rates, despite the fact that they are already realizing the lion's share of the profits. The freight market is now firm at 36s 3d for wheat cargo on desirable ships to Cork, U. K., for orders, usual option as to final destination, while a year ago the same class of ships were obtainable at 25s, showing about $8000 more freight money on an average cargo this season than last. Two years ago, with shipping wheat commanding $1.42½, freight rates were not quite so stiff as at this date. Wheat ships are not meeting with very prompt dispatch, only four cargoes having been cleared in the past fortnight. There was inclement weather much of the time, which retarded loading.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1899, delivery, 99@98¾c.
May, 1900, delivery, $1.03⅞@1.06¼.
December, 1900, delivery, $1.08¾@1.10¼.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at ——@——c; May, 1900, $1.05⅛@1.04⅞; Dec., 1900, $1.09¼@——.

California Milling	$ 97½@1 05	
Cal. No. 1 shipping, alongside	95 @ 97½	
Oregon Valley	92½@1 00	
Walla Walla Blue Stem	90 @1 02½	
Walla Walla Club	80 @1 00	
Off qualities wheat	75 @ 90	

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	-s—d@-s—d	6s2d@-s—d
Freight rates	25@26¼s	35@36¼s
Local market	$1.13¾@1.16¼	$0.95@0.98¾

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

Flour.

There are no special changes to record in the condition of the flour market, certainly none for the better. Stocks are fairly liberal and trade is decidedly slow, which is invariably the case at the close of the year. Quotable rates remain nominally as last noted, but the market is weak at these figures, and to effect free sales materially lower prices would have to be accepted.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

Barley.

Handlers of this cereal assert, almost without exception, that they never experienced more dullness than has lately existed in the barley trade. Some barley is still going aboard ship for Europe, but it must be mainly if not wholly out of stocks held by exporters, or else is being purchased in the interior, as there are no evidences of any noteworthy quantities changing hands here on export account. The market throughout inclines against sellers, unless it be for desirable lots to pile up against Call Board contracts, there having been lately considerable inquiry for barley for this purpose. For grinding for feed, local millers are running mainly on qualities which will not pass Call Board inspection. There are very liberal offerings of this low-grade barley, and buyers naturally have the advantage. Prices are at a wide range, being governed by the exact condition of the grain, the quantity, its location and other circumstances. While the future of the market is devoid of any particularly encouraging feature for the selling interest, the opinion is rather general that values are not apt to materially recede from current levels, especially for desirable brewing qualities and high-grade feed.

Feed, No. 1 to choice	80	@	82½
Feed, fair to good	65	@	75
Brewing, No. 1 to choice	87½	@	97½
Chevalier, No. 1 to choice	1 00	@	1 07½
Chevalier, No. 2	—	@	—

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller 1899, new, ——@——c.
December, 1899, delivery, 79@78c.
May, 1900, 75¼@73¼c.

Wednesday, at regular noon session of the Call Board, Dec., 1899, feed sold at ——c; seller 1899, new, ——c. Nothing was done in barley options.

Oats.

Values are being maintained at about same range last quoted, with market firm for choice to select feed and high-grade milling oats, the proportion of offerings of these descriptions being decidedly light. Common qualities are in more than ample stock to satisfy the inquiry for the same, and market for defective grades lacks firmness. Most of the faulty oats are more or less rain stained, and these give promise of being in large evidence throughout the season. Market for Black oats is now ruling quiet, demand for seed for the season having been seemingly nearly satisfied. There are, however, no heavy offerings of desirable Black oats at this date. Red oats are still in fair request, not only for seeding, but also for other purposes.

White Oats, fancy feed	1 25	@	—
White, good to choice	1 15	@1	22½
White, poor to fair	1 07½	@1	12½
Gray, common to choice	1 10	@1	20
Milling	1 15	@1	25
Surprise, good to choice	1 20	@1	30
Black Russian	95	@1	07½
Red	95	@1	20

Corn.

Spot supplies continue light, and are in consequence rather stiffly held, higher figures being demanded in a small way than would be ordinarily exacted with same values current at primary points. The corn now here is principally Eastern White and Eastern mixed, there being very little straight Yellow, either Large or Small. Supplies of imported would be larger were it not for the fact that buyers are holding back, anticipating easier values.

Large White, good to choice	1 05	@1	12½
Large Yellow	1 07½	@1	12½
Small Yellow	1 40	@1	50
Eastern Mixed	1 02½	@1	07½

Rye.

The market is ruling quiet at practically unchanged figures. There is no special selling pressure, and local buyers show no desire to purchase heavily. Small quantities have been lately taken for shipment abroad.

Good to choice, new 1 02½@1 05

Buckwheat.

Trading is so insignificant that values are not clearly defined. Under selling pressure, full current quotations could probably not be realized, while on buying orders higher prices than below noted would probably have to be paid.

Good to choice	2 00	@2	10
Silverskin	—	@	—

Beans.

The movement in beans is light, both inward and outward, and is likely to so continue for some weeks to come. Dealers do not look for other than a dull market at the close of the year, as there is no desire to lay in supplies, more than actually necessary, for the reason that most merchants will soon be busy with their annual stock taking, and naturally do not care to have any more goods on hand than compelled to. The market shows healthy condition for desirable qualities of all varieties, stocks of prime to choice being of quite moderate volume for this time of year, and are largely in strong hands, thoroughly competent to hold and having confidence in the market. It is the exception where buyers are able to do any special dictating as to terms, unless on seriously defective qualities.

Advices of recent date from New York City give the following review of the bean trade, prices quoted being per 60-lb. bushel:

Rather an unsettled feeling has prevailed on the local market, and holders have yielded a little in price when there was opportunity to move stock. Receipts of domestic goods have been light, and country shippers have taken quite a firm attitude; but with both the export and jobbing trade light, as is usual at this season of the year, and some apprehension as to the effects of importations of foreign beans, several thousand bags of which are now in transit, the situation here has been somewhat perplexing. For the last half of the week most buyers have not had difficulty in securing choice old Marrow at $2.20; a few exceptionally fancy lots are held a little higher, but sales are rare. An occasional shipment of new Marrow shows improved quality, and such crowd close up to old; but, as a rule, the best packings are selling at $2.15. While this year's crop is acknowledged to be poor, it would seem wise for shippers to screen and pick carefully in order to retain the trade for their goods. Some foreign lots are already arriving, and they may be quite a competitor later on. Medium of very choice quality have a few small sales at $2.02½@2.05, but recent business has been mostly at $2. The latter figure is generally current for choice Pea in barrels, and bags are selling at $1.95@2—the inside rate for car lots of Michigan. Exporters have had no difficulty in filling orders for best new Red Kidney at $2 30, and there has been some buying on home account; old stock about out of first hands. White Kidney very scarce and firm. Yellow Eye also in light receipt and have some inquiry. Turtle Soup dull. California Lima quiet and most sales have been at $3.30; quoted at $3.30@3.35. Several lots of "Dutch Runners" have arrived and they are offering at $2.60@2.65; they are mostly in 88-lb. pockets. Green peas have declined a little.

Pea, fair to good, 100 lbs	2 75	@3	00
Small White, good to choice	2 75	@3	00
Lady Washington	2 25	@2	40
Butter, small	3 75	@4	00
Butter, large	——	@——	
Pinks	2 50	@2	75
Bayos, good to choice	3 25	@3	50
Reds	3 75	@4	00
Red Kidneys	3 00	@3	50
Limas, good to choice	4 85	@5	00
Black-eye Beans	4 50	@4	75
Horse Beans	——	@——	
Garbanzos, large	2 50	@2	75
Garbanzos, small	2 00	@2	25

Dried Peas.

For thoroughly choice and dry, the market inclines in favor of sellers, particularly for desirable lots of the Niles variety, these being in lightest supply. Offerings which are damp or wet will not bring quotations, as they shrink very much in weight and are otherwise objectionable.

Green Peas, California	2 10	@2	25
Niles Peas	2 10	@——	

Wool.

Stocks are being steadily reduced and would be moved much more rapidly if packers and scourers were able to get the wools ready for shipment more speedily. There are no large quantities arriving from any quarter, and there are no evidences of much stock remaining in any portion of the interior. Under existing conditions, there is little opportunity for buying wools from first hands, the bulk of present supplies being held by scourers and shippers. This condition will continue to be a feature of the market for several months, or until the Spring clip begins to come forward. A more than ordinarily quiet time is likely to be experienced during January and February, as the limited stocks then remaining will be mostly owned by manufacturers and Eastern dealers, and will be held on their account until ready to be forwarded to consuming points in the East or on this coast.

SPRING.

Oregon Eastern, choice	13	@16
Oregon Eastern, fair to good	11	@13
Oregon Valley	17	@19

FALL.

Humboldt and Mendocino	16	@17
Middle Counties, defective	9	@12
Northern, free	11	@14
Northern defective	9	@11
Southern Mountain	8	@10
San Joaquin Plains	——	@——
San Joaquin Lamb	——	@——

Hops.

In a wholesale way the local market is almost wholly devoid of life, and there are no evidences of any special activity in either Eastern or foreign centers. Local jobbers are not transacting any great amount of business, inquiry being exceedingly slow for shipment as well as for home use. Weakness is as fully pronounced as previously noted, and poor prospect of values showing any special improvement during the balance of the season. Some dealers assert that there are no choice hops offering from first hands. While there may be none which come up to the expert's highest ideal, there are good, serviceable hops for which it is difficult to obtain an offer and impossible to secure a figure affording any profit to grower.

Good to choice, 1899 crop 6 @ 9

The following information regarding hops is from a New York review, coming through by recent mail:

A fairly good trade is reported with brewers, quite as much stock being moved this week as last. Shippers have taken some lots and the interest manifested by them makes it quite certain that they would do much more business if they could find the right quality. The proportion of really desirable hops is exceedingly small, and that fact is becoming very noticeable as the season advances. We hear that some short sellers are already having considerable trouble on account of quality. The tone of the market at present is firm for prime to choice grades of both State and Pacific Coast hops, while the medium and common qualities have rather an uncertain value. There has been some inquiries for '98 Pacifics, and it is found that the stock of such is small. A good many old hops are still in store, and they are apparently without friends. Moderate trading is reported in the interior of this State, and the best growths are bringing a little more money; 14c has been paid this week for choice, and quite a good many lots sold at 12½@13½c, with low grades down to 7½@8½c. In the best sections of the Pacific coast the hops are mostly gone; those left not being very good are generally selling at lower prices.

Hay and Straw.

Although hay is arriving in very moderate quantity, the market is wholly lacking in strength, and within the memory of those now connected with the trade, was never in quite as unsatisfactory condition as at present. A little Wheat hay of extra choice quality commands $10 per ton, this being an extreme figure unwarranted as a quotation. The bulk of the business is within range of $6@9, few buyers taking more than enough for immediate needs at these values. There is common Cow hay offering for which not over $5 per ton can be realized in a wholesale way. Straw market is also lacking in firmness, but values for same are hardly relatively so low as are current on hay.

Wheat	7 00	@ 9	50
Wheat and Oat	7 00	@ 9	00
Oat	6 50	@ 8	50
Barley	6 00	@ 7	00
Alfalfa	5 00	@ 7	00
Timothy	——	@ ——	
Compressed	7 00	@ 9	50
Straw, ₱ bale	30	@	45

Millstuffs.

With the single exception of cracked and ground corn all descriptions of millfeed are in sufficiently liberal supply to cause the market to favor buyers. Increased stocks of milled corn are expected on the market before long.

Bran, ₱ ton	12 50	@13	50
Middlings	15 00	@18	00
Shorts, Oregon	12 50	@15	00
Barley, Rolled	16 50	@17	50
Cornmeal	23 50	@24	00
Cracked Corn	24 50	@25	00

Seeds.

The market is without specially new or noteworthy feature. There is so little doing in most kinds that values are largely nominal. The inactivity is mainly due to very scanty spot supplies. Yellow mustard is in a small way commanding stiff prices.

	Per ctl.
Mustard, Trieste	3 25@3 50
Mustard, Yellow	4 50@4 75
Flax	2 00@2 25
	Per lb.
Canary	3¼@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	8½@9

Bags and Bagging.

The same conditions previously noted continue in force in the bag market. Trade in this line is practically at a standstill, and that there will be any material change in this regard during the next few weeks is not probable.

Calcutta Grain Bags	6½@ 7
San Francisco Grain bags, 22x36, spot	6½@ 7
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@30
Wool sacks, 3½ lb	—@28
Gunnies	—@12½
Bean bags	4¾@ 5¼
Fruit sacks, cotton	6¼@ 7

Hides, Pelts and Tallow.

Hides continue in limited supply and market in consequence remains strong. Pelts are in only moderate receipt and are commanding former values. Tallow market is showing steadiness, although demand cannot be termed brisk at full current figures.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11½@—	10½@—
Medium Steers, 48 to 56 lbs	10½@—	9½@—
Light Steers, under 48 lbs	10 @—	9 @—
Heavy Cow Hides, over 50 lbs	10½@—	9½@—
Light Cow Hides, under 50 lbs	10 @—	9 @—
Wet Salted Kip	10 @—	9 @—
Wet Salted Veal	10 @—	9 @—
Wet Salted Calf	11 @—	10 @—
Dry Hides	18 @—	14 @—
Dry Kip and Veal, 11 to 16 lbs	17 @—	13 @—
Dry Calf, under 4 lbs	18 @—	15 @—
Salted Horse Hides, large	2 50	@ —
Salted Horse Hides, medium	2 00	@ —
Salted Horse Hides, small	1 00	@ —
Dry Horse Hides, large	2 00	@ —
Dry Horse Hides, small	75	@1 00
Dry Colts' Hides	50	@ 75
Pelts, long wool, per skin	1 00	@1 25
Pelts, medium, per skin	70	@ 90
Pelts, short wool, per skin	35	@ 60
Pelts, shearling, per skin	20	@ 35
Deer Skins, best summer	27½	@ 30
Deer Skins, good medium	20	@ 22½
Deer Skins, thin winter	—	@ 10
Elk Hides	10	@ 12
Tallow, good quality	4½	@ 5
Tallow, No. 2	4	@ 4½
Goat Skins, perfect	30	@ 37½
Goat Skins, damaged	10	@ 20
Kid Skins	5	@ 10

Honey.

There is no chance for extensive trading in this commodity at present, supplies having been reduced to small proportions. A sailing vessel clearing the past week for England carried 125 cases extracted. Prospects for coming season's yield are considered very good for this early date.

Extracted, White Liquid	7½@ 8
Extracted, Light Amber	7 @ 7½
Extracted, Amber	5 @ 5½
White Comb, 1-₱ frames	11½@12½
Amber Comb	8 @10

Beeswax.

A firm market is noted at previously quoted range of prices, supplies in this center being light and nothing of consequence offering to arrive.

Good to choice, light, ₱ lb	26 @27
Dark	24 @25

Live Stock and Meats.

Market for beef showed much the same condition as previous week, the demand being good and supplies of desirable qualities not particularly heavy. For choice Christmas

beef 8c was realized. Veal brought stiff figures, with arrivals light. Mutton ruled higher. No very marked changes are foreshadowed for the near future. Lamb sold to very good advantage. Hogs of the most desirable sizes, small and medium, were not in large receipt and met with a firm market. Heavy hogs were not eagerly sought after at full current rates.

Beef, 1st quality, dressed, net ℔ lb	7	@	7½
Beef, 2d quality	6½	@	6¾
Beef, 3d quality	6	@	6½
Mutton—ewes, 7@7½c; wethers	7½	@	8
Hogs, hard grain fed, medium	5¾	@	5¾
Hogs, small, fat	5¾	@	5¾
Hogs, large hard	5	@	5¼
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ℔ lb	8	@	10
Veal, large, ℔ lb	8	@	9
Lamb, spring, ℔ lb	9	@	—

Poultry.

The market continued to be heavily stocked with Eastern poultry, and low prices prevailed for most descriptions, particularly for full grown and old fowls. Broilers and Fryers, young Ducks, fat Goslings and young Pigeons were in lightest supply and salable to best advantage. Turkeys were in fair request for Christmas, choice selling fairly well, and may rule firmer later in the week. Fat young goblers received the preference.

Turkeys, Dressed, ℔ lb	15	@	17
Turkeys, live hens, ℔ lb	14	@	15
Turkeys, live gobblers	14	@	15
Hens, Cal., ℔ doz	3 50	@	4 00
Roosters, old	3 50	@	4 00
Roosters, young, (full-grown)	4 00	@	4 50
Fryers	3 50	@	4 00
Broilers, large	3 50	@	4 00
Broilers, small	3 25	@	3 50
Ducks, ℔ doz	4 00	@	5 50
Geese, ℔ pair	1 75	@	2 00
Goslings, ℔ pair	1 75	@	2 00
Pigeons, Old, ℔ doz	1 00	@	—
Pigeons, Young	2 00	@	2 50

Butter.

While the production of butter in the section bordering on San Francisco bay, and in the lower coast district, is on the increase, it is not averaging well as to condition, as is invariably the case at the beginning of the season, and market for defective and poor keeping qualities is weak. Strictly fresh is not in excessive supply, is in very fair demand, and is commanding tolerably good prices.

Creamery extras, ℔ lb	24	@25
Creamery firsts	23	@24
Creamery seconds	22	@23
Dairy select	22½	@23½
Dairy seconds	18	@21
Dairy, soft and weedy	—	@—
Mixed store	14	@16
Creamery in tubs	18	@21
Pickled Roll	—	@—
Firkin, Cal., choice to select	19	@22
Firkin, common to fair	16	@18

Cheese.

Market has not changed materially since last review. Mild-flavored new of high grade continues in light supply and in a small way commands an advance on top quotations. There is a fair supply of well-seasoned cheese, but it is mostly in few and strong hands and is not being crowded to sale. Eastern cheese is very firmly held, both here and at primary points.

California fancy flat, new	12	@—
California, good to choice	10½	@11½
California, fair to good	10	@11
California Cheddar	—	@—
California, "Young Americas"	10½	@12½

Eggs.

The egg market has shown more steadiness for fresh product than for a fortnight or more preceding, but at the same time has not been in what could be termed satisfactory shape for sellers. While the demand showed improvement, it was largely on account of prices being trimmed to suit buyers. Receivers were anxious to prevent accumulations and did not hesitate to make concessions rather than miss sales. Cold storage eggs continued to be offered freely and at low figures.

California, select, large white and fresh	32½	@—
California, select, irregular color & size	27½	@30
California, good to choice store	22½	@27½
Eastern, as to section and grading	20	@22½
Eastern, cold storage	17	@20

Vegetables.

String Beans, Green Peas, Egg Plant, Green Peppers, Summer Squash and other vegetables of like class are in fair receipt from southern California, and such as are arriving in good condition are bringing good prices. Onions were in decreased receipt and brought improved values. Hubbard Squash is commanding high figures, being in very light stock.

Beans, String, ℔ lb	7@		9
Beans, Lima, ℔ lb	—@		—
Cabbage, choice garden, ℔ 100	50@		—
Cauliflower, ℔ doz	50@		—
Cucumbers, Los Angeles, ℔ box	1 00@		—
Egg Plant, ℔ lb	10@		15
Garlic, ℔ lb	6@		7
Mushrooms, Buttons, ℔ lb	20@		—
Mushrooms, wild, ℔ box	10@		15
Okra, Green, ℔ box	—@		—
Onions, Yellow, Cal., good to choice	90@	1	20
Onions, Oregon, ℔ cental	1 00@	1	25
Peas, Sweet, Garden, ℔ lb	6@		8
Peppers, Green Chile, ℔ lb	4@		6
Peppers, Bell, ℔ large box	—@		—
Rhuharb, ℔ box	—@		—
Squash, Marrowfat, ℔ ton	—@		—
Squash, Summer, ℔ box	1 00@	1	25
Tomatoes, Los Angeles, ℔ crate	1 25@	1	50
Tomatoes, Bay, ℔ box	—@		—

Potatoes.

The market for Potatoss ruled very steady for best Burbanks, there being only moderate offerings of this description. Poor qualities were in liberal stock and dragged at low figures, most buyers refusing to handle them at any price. Sweets were in reduced supply and sold at an advance.

Burbanks, River, ℔ cental	70	@	95
Burbanks, Bay counties, ℔ ctl	—	@	—
Burbanks, Humboldt	70	@1	10
Burbanks, Oregon	60	@1	10
River Reds	—	@	—
Burbanks, Salinas, ℔ cental	1 00	@1	25
Early Rose	85	@	95
Garnet Chile	1 00	@1	15
Sweet River, ℔ cental	—	@	—
Sweet Merced	1 35	@1	50

The Fruit Market.

Fresh Fruits.

Aside from Apples, there is very little at present offering in the line of deciduous fruits. There are decidedly liberal stocks of Apples, but they are largely of cheap grades or defective qualities, and for this class of fruit the market is wholly lacking in firmness, prices being irregular and in the main at a low range. The most ordinary grades are selling as low as 25c per box, and have to be considerably above the average in the line of cheap fruit to command up to 50c. Some very good Apples in the way of Pippins are selling at 60@75c per box, the supply of green or yellow skinned Apples being much larger, as compared with the demand, than is the supply of Red Apples. The latter are commanding decidedly the best prices, select Spitzenberg or equally desirable stock being quotable up to $1.25 wholesale, and selling 15@25c per box higher in a jobbing and retail way. Pears are scarce, in fact are practically out of stock beyond a few held in cold storage. For select Winter Nellis as high as $2 per box is asked, and on small orders this figure is realized. Persimmons are not offering so freely as a few weeks ago, but the supply is still more than apace with the demand, and prices kept at a low range. The weather the past week has been most of the time too cool and frosty for this fruit to be even in ordinary favor with the average consumer. Grapes are still lingering on market, mainly the remnants of cold storage supplies, and are offering at a wide range, say from 50c@$1.25 per crate, as to condition, but are receiving very little attention. A few strawberries of the large varieties are coming forward, but being unseasonable, fail to command good figures. Cranberries are selling at unchanged rates, $7@9 per barrel for Eastern, and $1.50@2 per bushel for Oregon, with market easy in tone.

Apples, fancy, 4-tier box	1 00@	1	25
Apples, good to choice, ℔ 50-lb. box	75@		90
Apples, common to fair, ℔ 50-lb. box	35@		60
Apples, Lady, ℔ box	1 00@	2	00
Grapes, Black, ℔ crate	—@		—
Grapes, Muscat, ℔ crate	—@		—
Grapes, Tokay, ℔ box, —@—c; ℔ crate	—@		—
Grapes, Cornichon, ℔ crate	—@		—
Grapes, Isabella, ℔ crate	—@		—
Pears, Winter Nelis, ℔ box	1 00@	2	00
Pears, cooking varieties, ℔ box	50@		75
Persimmons, ℔ 2-layer box	30@		50
Plums, ℔ box	—@		—
Pomegranates, ℔ box	—@		—
Quinces, ℔ box	—@		—
Raspberries, ℔ chest	—@		—
Strawberries, Longworth, ℔ chest	—@		—
Strawberries, Large, ℔ chest	2 00@	3	00
Whortleberries, ℔ lb	4@		6

Dried Fruits.

The customary mid-Winter holiday dullness is prevailing in the market for cured and evaporated fruits, with little probability of conditions being especially different for several weeks to come. Quotations throughout remain practically as last noted, but in most instances are largely nominal and are based on latest transactions rather than on immediate values. Current figures are not obtainable, unless on actual buying orders, and these so far as most kinds are concerned are few and far between at present. Dealers are not in the market as buyers, unless it be at decided bargains, less than quotations, and at such very advantageous terms want only the most desirable fruit. Jobbers prefer reducing their own stocks at present. It is believed that in the early Spring dealers will be desirous of stocking up with such sorts as are obtainable, possibly sooner. While the market is slow, it is not wholly lifeless, as there is some European demand for Prunes, mainly from Germany, nearly all sizes other than 40-50's being in moderate request on export account at prevailing rates. Last Monday's steamer for Victoria took about 23 tons dried fruit for British Columbia.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12
Apricots, Royal, fancy	12½	@	13
Apricots, Moorpark	13	@	15
Apples, in 50-lh. boxes, rings, pressed, fancy	7½	@	8
Apples, 50-lh. boxes, rings, pressed, good to choice	6	@	7
Figs, White, fancy pressed	6½	@	7½
Peaches, unpeeled, good to choice	5	@	6
Peaches, unpeeled, fancy	7	@	7½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	9	@	10
Pears, halved, unpeeled Bartletts	6½	@	8
Pears, quartered, unpeeled Bartletts	6½	@	7½
Plums, Black, pitted	6½	@	7½
Plums, White and Red, pitted	7	@	8
Prunes, in sacks, 40—50's	4	@	4½
50—60's	3½	@	3¾
60—70's	3¼	@	3½
70—80's	3	@	3¼
80—90's	2½	@	2¾
90—100's	2	@	2½
110—130's	—@—		

Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.

4 sizes Santa Claras and equal	2¾	@	—
4 sizes San Joaquin and Northern	2¼	@	2½
Prunes, Silver	4	@	7

Advices by mail of late date from New York City furnish the following report of the dried fruit market:

Evaporated apples have ruled weak and lower under a moderate trade and increased pressure to realize at primary sections; small jobbing sales of prime have been made on the spot at 7@7¼c, but latter figure has been extreme and sales of carload lots have been made at interior points for immediate shipment at 6¾c, and in instances 6½@6⅝c, though at the close a little steadier feeling has developed and free offers of 6¾c have failed to obtain stock, holders now generally asking 7c. The stocks of choice and fancy apples are limited and the little business reported has been at about late prices—in fact, some fancy have exceeded outside quotation considerably; grades under prime receive little attention. Sun-dried apples are in fair supply and held steadily, though little fruit shows quality to command full prices, average southern sliced selling from 5@5½c; quarters have a fair amount of attention from exporters at 5@5¼c for southern, rarely higher for exceptional quality, generally 5½c for State and 5½@5¾c, rarely 6c, for western. Chops have been very dull at 2c extreme, offers at $1.90 per 100 lhs. not attracting attention at the close. Waste has met a fair demand, hut at low prices, generally 1¼@1⅜c. Small fruits have continued in limited supply and held high, hut demand light and tone weaker on raspberries. California fruit has continued in good johhing demand at full late prices.

Apricots, Cal. Moorpark, 1899, per lb	15	@	17½
Apricots, Cal. Royal, 1899, per lh	13	@	14
Peaches, Cal., 1899, peeled, per lh	18	@	22
Peaches, Cal., 1899, unpeeled, in boxes, lb.	8	@	9
Peaches, Cal.,1899, unpeeled, in hags, lh.	7½	@	8¾
Prunes, Cal., 1899, per lb	3½	@	7

Raisins.

Very little doing in this line, and no prospect of other than a very quiet market in the near future. Bleached Sultanas, and second grade loose Muscatels, termed Pacifics, constitute the bulk of present offerings. A large portion of the grapes which were intended for Orientals or third grade Muscatels, were wiped out by damaging rains. Former quotations are continued in force by the Growers' Association.

COMMON SUN-DRIED.

Apples, sliced	4	@	5
Apples, quartered	4	@	5
Figs, Black	3	@	4
Figs, White		—@—	
Peaches, unpeeled		—@—	

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ℔ box	83 00@—		
Do do 5-crown, ℔ hox	2 50@—		
Do do 4-crown, ℔ box	2 00@—		
Do do 3 crown, ℔ box	1 60@—		
Do do 2-crown, ℔ box	1 50@—		
Valencia layers, ℔ 20-lb box	80@1 00		

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, seedless	5	@	—

Pacifics.—2-crown loose Muscatel, 5¼c; 3-crown, 6c; 4-crown, 6½c; seedless, 4¾c.

Orientals.—2-crown loose Muscatel, 4¾c; 3-crown, 5½c; 4-crown, 6c.

(Above prices for loose raisins are for 50-lb. hoxes.)

Thompson Seedless.—Bleached fancy, ℔ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ℔ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ℔ lh., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ℔ lb., 7c; choice, 6c; standard, 5c.

Citrus Fruits.

Owing to the mid-Winter holidays being at hand, there has been a little better demand for Oranges, despite the frosty and unfavorable weather. Prices remained favorable to buyers, supplies being considerably ahead of requirements. Lemons were held as last quoted, but market was slow and presented a weak tone. In the Lime market there was no change to record in prices.

Oranges—Navels, ℔ box	1 75@	2	25
Cal. Seedlings	1 00@	1	50
Cal. Tangerine, ℔ box	—@		—
Grape fruit, ℔ hox	1 50@	2	50
Lemons—Cal., select, ℔ hox	3 00@	3	50
Cal., good to choice	2 00@	2	50
Cal., common to fair	1 00@	1	50
Limes—Mexican, ℔ hox	4 00@	4	50
Cal., small box	75@	1	25

Nuts.

There is little inquiry of a wholesale character at present for nuts of any sort. Values for Walnuts show a quotable decline of fully half a cent. Quotations for Almonds remain unchanged, but market is weak at these figures. Peanuts continue in limited supply and previously quoted values are being well sustained.

California Almonds, shelled	17	@	20
California Almonds, paper shell, ℔ lb	11	@	12
California Almonds, soft shell	10	@	11
California Almonds, hard shell	6	@	7
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	10	@	11
Wainuts White, Cal., standard	9	@	10
Chestnuts, Cal. Italian	9	@	10
Peanuts, Cal., fair to prime	4½	@	5
Peanuts, Eastern hand-picked	6	@	7½
Pine Nuts	5	@	6

Wine.

As this year's wine is not yet in marketable condition, and will not be for a month or more, values for the same remain undetermined. Quotable rates for dry wines, from one to three years old, remain quotable at 15@20c per gallon, San Frrncisco delivery, as to quality, quantity and other conditions. Monday's Panama steamer carried 46,000 gallons, of which 43,650 gallons were destined for New York. There is a moderate movement Eastward by rail, and also outward by sea per steamers and sailing vessels to various points in the Pacific. Wine other than this year's vintage is now practically all out of first hands.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above dates. It is the aim of the PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to the superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

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Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	103,125	2,624,369	2,358,776
Wheat, ctls	210,184	2,112,560	1,564,503
Barley, ctls	107,007	3,693,554	850,775
Oats, ctls	23,135	489,526	462,575
Corn ctls	3,510	64,285	82,485
Rye, ctls	1,480	81,587	15,840
Beans, sks	9,929	276,401	276,332
Potatoes, sks	32,020	628,611	604,274
Onions, sks	4,252	109,771	111,900
Hay, tons	2,218	90,570	78,062
Wool, bales	145	34,857	28,533
Hops, hales	542	7,099	10,218

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	124,936	1,585,447	1,504,128
Wheat, ctls	205,449	1,752,738	825,934
Barley, ctls	65,141	2,915,437	253,297
Oats, ctls	193	23,776	12,944
Corn, ctls	209	8,681	9,429
Beans, sks	4,316	15,998	68,015
Hay, hales	3,208	52,446	34,585
Wool, lbs	217,178	3,199,960	1,306,072
Hops, lbs	330	556,771	1,037,302
Honey, cases	142	3,195	4,429
Potatoes, pkgs	2,297	40,190	26,246

California Dried Fruit at New York.

NEW YORK, Dec. 20.—California dried fruits; Moderate business doing. Evaporated apples, common, 6@6½c; prime wire tray, 6¾ '7c; choice, 7¼@8¼c; fancy, 8½@9c.
Prunes, 3½@8c.
Apricots, Royal, 13@15c; Moorpark, 15@18c.
Peaches unpeeled, 7½@10c; peeled, 20@22c.

NEW 20TH CENTURY CREAM SEPARATORS



Sept. 1st marked the introduction of the Improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators and these newest "Alpha" disc machines are simply unapproachable by anything else in the shape of a cream separator. Overwhelming as has been the conceded superiority of the De Laval machines heretofore their standard is now raised still higher and they are more than ever placed *in a class by themselves* as regards all possible competition. Send for new catalogue.

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Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

HINGED TELESCOPIC BOX.—C. J. Russell, Santa Maria. Cal. No. 637,997. Dated Nov. 28, 1899. This invention relates to a telescopic box having hinges and sildable guides so arranged that the two telescoping parts of the box may be adjusted to give any desired depth within its capacity. At the same time the parts are connected by the hinge so that they can be opened without separation when they are extended to their fullest capacity. The box consists of two sections of any suitable material, one of which is sildable within the other. Vertical bars are fixed upon the sides of one of the sections and corresponding clasps in which the bars are sildable are carried by the other section. Holes are made in the bars and spring latches fixed upon them, the other section have pins which are adapted to engage the holes in the bars and retain the parts at any adjustment with relation to each other. The clasps are hinged and are carried by the turnable leaf of the hinge in which the rear of the T-shaped bars are sildable so that the sections may be extended to their limit and then opened about their hinges and without separating the parts, as is usual with ordinary telescopic boxes.

MILK COOLER AND AERATOR.—A. L. Stone, San Francisco, Cal. No. 638,406. Dated Dec. 5, 1899. The object of this invention is to provide an apparatus for cooling and aerating milk. It consists of an outer casting having a removable interior casting formed with side walls and inclined step-like surfaces, with a closed chamber beneath said surface. Outlets are formed between each pair of the surfaces so that a blast of air, delivered into the rear end of said chamber, is forced through the milk which flows over the steps.

CHEESE CUTTER.—E. S. Burt, Glencoe, Cal., assignor of two-thirds interest to J. Burt of same place, and W. E. Holbrook of West Point, Cal. No. 638,377. Dated Dec. 5, 1899. The object of this invention is to provide a device for cutting cheese into desired sizes for sale and use. It consists of a support for the cheese having a removable cap or cover, a vertically slotted guide exterior to the periphery of the support, a knife or cutter of substantially triangular shape, having the deepest portion adjacent to the guide, and having a longitudinal stem or shank movable in slots in the guide. The rear end of the shank has a guide, and the lever is fulcrumed to this rear guide and a rod connected with the knife passes through the slotted guide so that by the operation of the lever the cutter may be forced down vertically through the cheese. Anti-frictional rollers are journaled between the clamps and travel against the guide bar to reduce the friction of the movement. The edge of the knife is curved, the inner end forming a point which first enters the cheese near the center, and the edge is so contrived that it makes a drawing cut which facilitates the work. The edge of the knife which cuts the outer portion of the cheese is made convex, and this fits into a similarly shaped channel in the supporting base so as to insure the severing of the cloth with which the cheese is wrapped.

DOOR LOCK.—C. E. Smith, Oroville, Cal. No. 638,404. Dated Dec. 5, 1899. This invention relates to locks for doors. It consists of a latch bolt guided and sildable through the edge plate of the lock and lugs between which the inner end of this bolt is sildable and guided, a spring surrounds the inner portion and is compressed between the lugs when the latch is withdrawn, and acts to force it forward when released. There is a turnable socket piece through which the knob shank passes, and this socket piece has an extension or arm at one side, and a latching link detachably connecting the extension with the inner end of the latch bolt, so that the turning of the knob will withdraw the latch after the key has been inserted and turned.

SELF-LOCKING BOLT FOR BUILDINGS.—G. H. Dyer, San Francisco, Cal. No. 638,384. Dated Dec. 5, 1899. This device is intended to be used where it is necessary or desirable to insert bolts or bars into brick, stone or other masonry walls, and to secure the same therein to form a permanent support for structures, such as balconies, fire escapes and the like. It consists essentially of a bolt having a turnable key upon its inner end, a contact surface against which the key is supported, and means for turning it and causing it to lock when it has been inserted into place, a hole being bored or drilled in the masonry wall of sufficient size. A tube is inserted to the proper depth to allow the bolt to extend through the tube and beyond its inner end, when the beveled inner edge of the turnable key being interior to the inner end of the tube, will engage it, and when a nut is screwed upon the outer end of the bolt, so as to pull it outward, it forces the key to turn and enter the masonry surrounding the hole, thus standing transversely across it and being permanently locked in place.

List of U. S. Patents for Pacific Coast Inventors

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING DECEMBER 5, 1899.

638,208.—LOOSE LEAF LEDGER—J. W. Amrath, S. F.
638,375.—ROTARY ENGINE—C. F. Baintel, Los Angeles, Cal.
638,438.—FLY TRAP—J. L. Boone, S. F.
638,620.—MITER BOX—T. Bootsman, Arctic, Wash.
638,377.—CHEESE CUTTER—E. S. Burt, Glencoe, Cal.
638,321.—SUB-IRRIGATION—B. O. Clark, Pasadena, Cal.
638,324.—CONCENTRATING TABLE—W. G. Dodd, S. F.
638,384.—SELF-LOCKING BOLT—G. H. Dyer, S. F.
638,325.—FRUIT EVAPORATOR—D. M. Ellsworth, Camas, Wash.
638,386.—NAIL—C. S. Farrow, Eugene, Or.
638,390.—STORAGE BATTERY—Hanscom & Hough, S. F.
638,456.—PLOW—H. Hansen, Redwood City, Cal.
638,460.—AIR COMPRESSOR—J. H. Hopps, S. F.
638,393.—CABINET—H. E. Hutchinson, Mt. Vernon, Wash.
638,585.—FRUIT GRADER—J. Mann, Butte City, Cal.
638,468.—DENTAL PLIERS—H. L. McKellips, S. F.
638,644.—BALING PRESS—J. N. Neuman, Riverside, Cal,
638,283.—PRESERVING MILK—J. Russell, S. F.
638,285.—MINING APPARATUS—P. Schnetter, S. F.
638,404.—DOOR LOCK.—C. E. Smith, Oroville, Cal.
638,292.—FOOT GUARD FOR RAILROAD TRACKS—P. J. Stockinger, Oakland, Cal.
638,406.—MILK COOLER AND AERATOR—A. L. Stone. S. F.
638,540.—HOSE SUPPORTER—Ella F. Young, S. F.
31,941.—DESIGN—H. Root, S. F.
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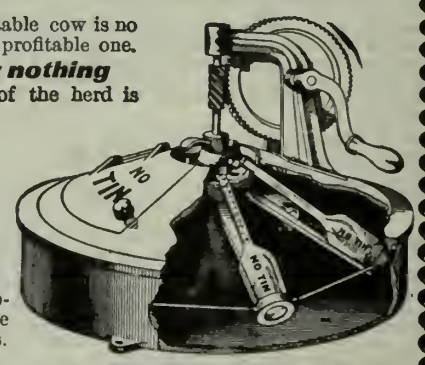
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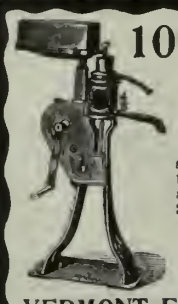


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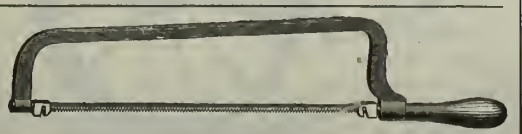
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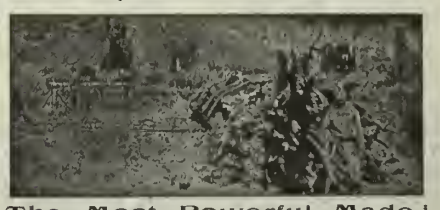
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Our Worthy Master at the National Grange.

NUMBER II.

TO THE EDITOR:—Wednesday morning the National Grange adjourned to attend session of Ohio State Grange, and most fraternal courtesies were exchanged.

To give an idea of the views of some of the Ohio grangers, I will quote some of the sayings of Deputy Masters as printed in the *Grange Bulletin:*

Rei Rathbon claimed that much devolved upon the deputy to keep up the interest in the work and earnestly urged continued activity on the part of deputies.

John A. Sheffield urged that the deputies be careful about the quality of their work rather than the quantity.

J. B. Reid advocated more work toward strengthening the Granges now in operation. We need to take hold of the work belonging to the farmer, such as county fairs, etc.

Bro. Hutchins said we must have earnest, active Patrons for Grange officers.

J. G. Mought thinks that large organizations are not evidences of strength, but earnest workers are necessary.

J. H. Plum of Massachusetts thinks that the men who go into the Grange for the money they can make out of it are like wormy chestnuts, also we must put members to work after we get them into the Grange.

R. E. Sawyer thinks the future will be just what we make it.

C. M. Freeman said: "We need more useful Granges."

The State Grange opposed the liquor traffic, favored the extension of the right of suffrage to women and the extension of free rural mail delivery.

They put themselves in line with the expression of the State Grange of California in demanding a just, fair and equitable valuation of all property in the State. These notes will furnish food for thought till another week.

San Jose. G. W. WORTHEN.

Tulare Grange.

TO THE EDITOR:—Tulare Grange held its regular semi-monthly meeting on Saturday, Dec. 16.

Prof. C. J. Berry spoke of the work of the San Joaquin Valley Commercial Association, the next meeting of which is to be held in Hanford on the 6th of January next, and moved a committee from Tulare Grange be appointed to attend the same and advocate good roads, properly constructed, as adding very greatly to the prosperity of Tulare county; also the committee shall advocate co-operation of fruit growers.

After proper consideration the resolution carried and the Worthy Master appointed Bros. Berry and Tuohy the committee.

The Worthy Master spoke of the Fruit Growers' Convention held last week in San Jose, and of action taken thereat to have a meeting of California fruit growers held in San Jose on the third Monday in January next.

This gave rise to a consideration of co-operation of California fruit growers in marketing their fruit, and equitable rates of freight, after which the following resolutions were passed as expressive of the views of Tulare Grange on the subject:

Resolved, Tulare Grange earnestly advocates the co-operation of all fruit growers in California, both for the purpose of marketing their fruits and for obtaining more equitable rates of transportation.

Resolved, Both of these objects are essential to the profitable growing of fruit in California.

Resolved, It is important that every subordinate Grange in California have a representative at the Fruit Growers' Convention to be held in San Jose on the third Monday in January.

Resolved, Bro. and Sister C. J. Berry and Bro. Thomas Jacobs be and they are hereby appointed a committee on behalf of Tulare Grange to attend the beforementioned convention and advocate co-operation in marketing fruit and equitable rates of transportation.

Bro. C. J. Berry read a well-written paper on diversity of soils in Tulare county and the duty of farmers to join the Order of Patrons of Husbandry.

The first and second degrees were conferred on a class of three.

The third and fourth degrees will be conferred at the regular meeting on the third Saturday in January, after which a harvest feast will be had and the newly elected officers installed.

Tulare. J. T.

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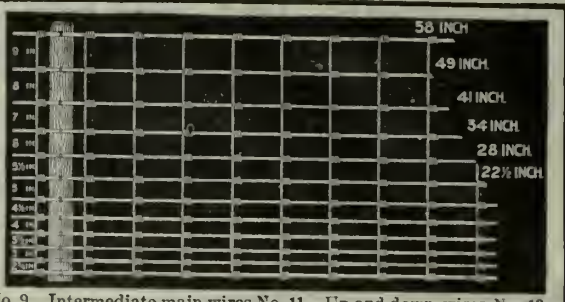
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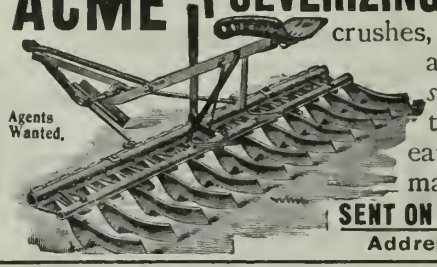
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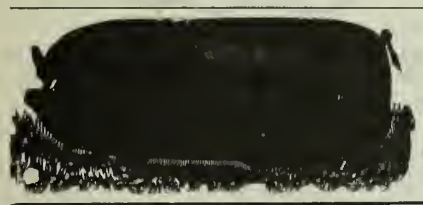
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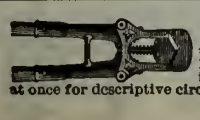
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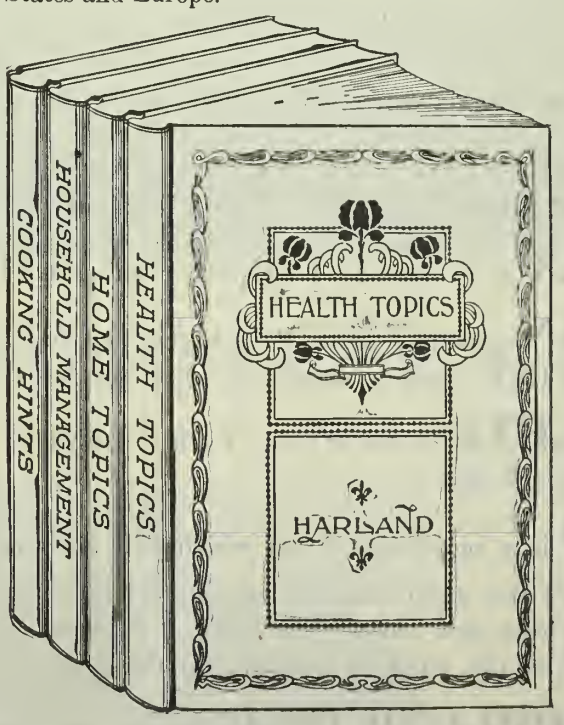
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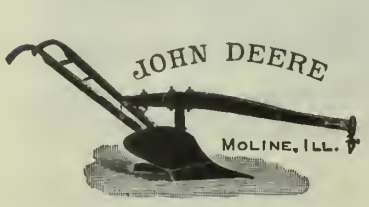
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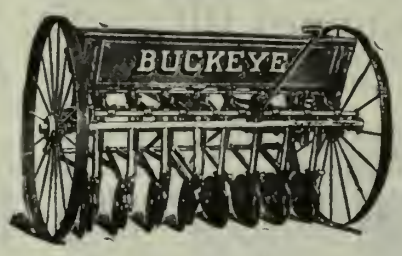


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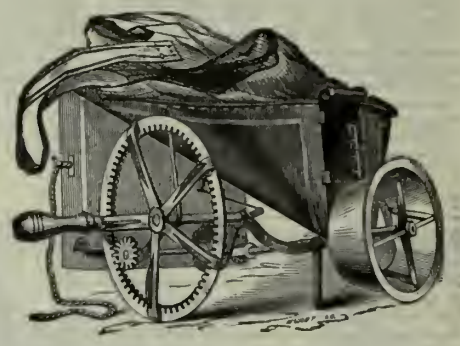


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AND CALIFORNIA FRUIT BULLETIN.

Vol. LVIII. No. 26. SAN FRANCISCO, SATURDAY, DECEMBER 30, 1899. TWENTY-NINTH YEAR. Office, 330 Market St.

The Picturesque in the California Mountains.

In accordance with our promise to show various phases of our mountain scenery and life, we have upon this page a collection of minor scenes embodying the picturesque as a ruling character. Grandeur and sublimity are the noblest attributes of the mountains, but probably they are not the ones which command most widely human appreciation and minister to human enjoyment. The realization of the picturesque is a more common attainment than the proper contemplation of the magnificent. We chose, therefore, this week a series of views which are simply pretty, pleasing and characteristic of the milder moods of mountain existence.

The way to see these things is not by public conveyance, though the stage-deck or the car-window occasionally reveals them. The wheelman, pedestrian or the equestrian easily commands them, and the cart or buggy is the most comfortable means of approach. In the present case we go both by saddle and buck-board, which is commonly done. The pretty mountain road leading through the tall trees yielding ever-changing vistas is a joy to every appreciative tramp or tourist. Passing out from the shade and sounds of the forest one is apt to come upon rocky masses, seamed and furrowed, the prey of frost and rain and blazing summer heat, impressive in the distance, beautiful and interesting in form and color to one who clambers aloft by such irregular steps as the various erosive agencies have prepared. The end, however, crowns the labor, for one is sure to have some additions to his stock of ideas upon the stupendous agencies employed in world-building as he looks away from a rocky summit. Not otherwise also are the thoughts which come to those who pierce to rocky center rather than rocky summit. The mountain region abounds in caves as well as crests, and it may be a question of individual impressibility whether one is more deeply moved by recesses dark and dank or by prospects boundless. Fortunately, the mountains afford trial of both, and one can contemplate death by fall of stalactite or by sunstroke and be equally appalled by both.

But to one who cares neither for the weariness of the summit nor the depression of the cavern there is the hillside in every imaginable form and color; rough, rocky and steep or smooth, grassy and gentle or varying degrees of each, along any mountain ramble. Two views are given which incline toward the former type and represent the work of tremendous forces working in past ages, but illy conceded by the kindly work of tree and plant since that time. To the geologist such scenes have deep significance and afford themes for endless discussion of means and agencies, but simple admirers such as we have to be content with wonder and admiration. They serve a good purpose to teach us that there is something else in the world than loam and produce and that he who restricts his thought too resolutely to the work of his hands is not wise.



The Pleasures of the Mountain Road.



In the Alabaster Cave in El Dorado County.



May Rock, Near Bear Valley, Mariposa County.



The Georgia Slide in El Dorado County



Rocky Mountain Slide in Mariposa County.

THE poor unfortunates in the insane asylums of the State are to be benefited by a fruit diet. The movement was begun at a recent meeting of the Lunacy Commission and delegates from the various insane asylums at Sacramento. The plan is to arrange a schedule with two pounds of dried fruit a month for each patient. If this food proves beneficial here it will be adopted elsewhere.

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E. J. WICKSON.....Horticultural Editor.

San Francisco, December 30, 1899.

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OF GENERAL INTEREST.

Concerning the circulation of the PACIFIC RURAL PRESS, the American Newspaper Directory, in its latest issue (June, 1899), says: "Actual average during 1898, 8,856."

The Week.

The holiday season is realizing all that has been expected, and must be voted the greatest success within easy memory. Socially and commercially its satisfactions have passed precedent, and from such a Christmas it is easy to look over into a new year with full confidence and the brightest anticipations. We offer our readers the most sincere congratulations that they are spared to go forward along life's journey under such favoring auspices as the present affords. We trust that each in his own way may gather the joys which best befit him from the ample store which is provided.

This issue closes our year's work, and the summary which the index on the last page furnishes shows that we have had a half year of interest and activity. We have had many reasons to rejoice in the cordial support of our constituency. It is a constant incitement to do our best in our line of ministry toward general prosperity, and for the generous encouragement which we receive, to make the best return which hard work and generous outlay can secure. With such a thought we go forward into the New Year with sincerest resolution to do the best we can for California and for Californians.

The markets are still in holiday disposition and at least another week must pass before facts will have their normal influence. Wheat has had an unsettled course, slight boom being followed by slight collapse, and everything much the same as a week ago. The Eastern situation seems a little stronger. Wheat is good so far as it goes. Barley is weak, oats quiet and steady; corn is a little more plentiful and easier. Hay still drags. Bran and rolled barley are cheaper and other millfeeds are weak. Beef is about the same and mutton a shade easier, while hogs are firm for small and medium weights. Poultry is strong. Supplies of small fowl for frying and broiling are scant. Turkeys are still firm, though sales are naturally less in amount. Eggs and butter are both firmer. The cool weather and the holiday demand favor them just at present. Dried fruit has shown more activity. Buyers have been freely taking medium grades of dried peaches and the German export trade is using good quantities of small and medium sized prunes. Persimmons are plentiful and too cheap to suit growers. Good oranges are now in free supply, but the cold weather limits consumption. Fresh vegetables are still selling well. Sweet potatoes are more plentiful; common potatoes and onions bring fair prices for good qualities. Only fancy hops are selling and they at low rates. Wool is resting for a fresh start after New Year's.

Most of the talk in fruit circles is still of trade and transportation. The decision of the transcontinental lines seems to be a mixed blessing, for it seems at the same time to stop rebates and stop competition between carriers. The growers' interest apparently lies in stopping the first and promoting the second. The regulation newly adopted by the transcontinentals has these provisions:

In guaranteeing the through rate named herein, the absolute and unqualified right of routing beyond its own terminal is reserved to the initial carrier giving guarantee. In compliance therewith, commencing January 1, 1900, agents will not accept shipping orders or other documents covering shipments of citrus fruits if routing instructions are shown therein. Neither will agents accept verbal routing instructions therefor. Initial carrier will route each car from point of origin to destination, and diversions in transit will not be permitted except by consent of the initial carrier, who will thereupon designate new routing when diversion necessitates change therein.

The explanation which the railway people give of this technical language is that it puts all shippers on equality. The man who ships one car a year has the same privileges as the one who ships 50 cars a day—no more, no less. Those who operate a refrigerator car line have no advantage over those who use some other person's cars. No rebates will be possible under this system. The initial carrier will guarantee freight rates to the destination of the car, but claims the right to run the car by the most direct and otherwise advantageous route.

If it works just that way it will certainly rule a great trouble out of the business, but it also prevents competition between overland lines. The Southern Pacific and the Santa Fe are not likely to quarrel over rates, and they, too, being the initial carriers, have the ruling of the course of each car, consequently, no connections along the line can cut rates to get the traffic. This seems to be the present status of the matter, and this promises to be the way of it during the coming year. It may prove that if rebates are really squelched the greater evil will be banished. If, then, the carriers would provide refrigerator cars, as they should, instead of allowing little monopolies in this line to work against the whole producing interest, it might be possible to do better in the future than it has been in the past.

President John W. Springer of the National Live Stock Association has issued the official call for the annual convention of the association, in Fort Worth, Tex., on January 16th and continue in session four days. The convention will be composed of delegates representing all of the largest live stock associations in the country, stock yard companies and many railroads. It is expected that over 1000 delegates will be in attendance, representing every State and Territory in the Union. Among the subjects to be discussed are the questions of leasing the public lands to stockmen for grazing in forest reserves of the West, the taking of a complete census of live stock next year, the work of gathering vital statistics relating to the live stock commerce by the association, matters relating to transportation of live stock by railroads and subjects of a kindred nature. Low rates have been made on all railroads for this meeting, and it is expected to be the most important gathering of stockmen ever held in the country.

Agricultural education is still growing in popularity. The Short Course in Agriculture of the University of Wisconsin is now in session at Madison, with an attendance of 249 students, sixteen States besides Wisconsin being represented. The numbers are distributed as follows: Wisconsin, 189; Illinois, 36; Iowa, 8; Ohio, 2; New York, 2; Michigan, 2; Maryland, Vermont, Colorado, Massachusetts, New Jersey, Minnesota, California, Pennsylvania, Tennessee, Indiana and Nebraska have one each. The rate of increase in numbers has been very gratifying. In the past three years the attendance has grown from 90 to 249, and admittance to the course this year had to be refused to several on account of not having sufficient room.

Speaking of rebates and discriminations between shippers, no doubt many readers of the RURAL will sympathize with the attitude of New Zealand toward transportation of products. A writer in Ainslee's Magazine for January treats of this and says:

There is one fact which alone makes the governmental administration of railroads in New Zealand a matter of envy to the American observer. Such a thing as a rebate or a discrimination in favor of one shipper against another is unknown in New Zealand. No would-be commercial conqueror can get the traffic manager of a New Zealand railroad to make him a rate which will drive his competitors out of business.

In discussing this matter with one of the government railroad officials, I asked him what the unit of shipment was in coal. The rates for coal, he said, were made by the ton.

"Could a man," I asked him, "ship 10,000 tons and get a lower rate than the man who shipped 1000 tons?"

"No," he replied; "not if he shipped 10,000,000 tons."

"In a great many ways New Zealand roads show the superiority of public ownership over private. The principle on which New Zealand roads are operated is that they shall only make profit enough to pay the interest on the debt incurred in building them, and as rapidly as any surplus accrues the rate shall be reduced. In other words, they are not run to make money, but to serve the public. The public administration of the roads also takes cognizance of special circumstances in the condition of the people. When there was a great drought in New Zealand, and the sheep had died by the hundreds of thousands in the grazing districts, the government reduced the rates on the movement of sheep in order to assist the settlers to restock the country. Special rates are made to facilitate the development of the export business."

These facts may be useful to our readers who are now discussing government ownership of public utilities. The subject is one of the greatest economic importance and should be dispassionately discussed in the interest of public education.

Reviews of the year's cattle business at the great cities of the Mississippi valley show that the anticipated shrinkage in receipts has been realized, and that the stock interests of the country are undergoing a gradual change. According to the Drovers' Journal cattle receipts for the year to December 1 foot up close to 180,000 head against 195,546 for all of last year, 233,531 in 1897, 271,925 in 1896, and 430,926 in 1895. The season's supply was the smallest since 1889, when only 160,396 were received. Comments upon this showing are in the line we have previously marked out. Many ranges have been abandoned and given over to the sheepmen during the past five years, which the cattlemen may never reclaim. However, during the present year not many cattle companies have sold out, and the further advancement of the man with the sheep has not been great. It is the man with the hoe who seems destined now to radically change the complexion of affairs in the range country. The fertile valleys are gradually being turned into agriculture, and the character of the cattle is gradually undergoing a metamorphosis. In years to come the number of cattle raised by Montana, Wyoming and the Dakotas may not be materially decreased, but there will be more owners and the cattle will be better bred. Thus the range industry will give way to husbandry, and on this basis California, with her favoring climate and ability to grow great volumes of feed stuffs by irrigation, may find an opening for exceptional advancement.

The strength of the bogus butter is now to be determined by the application for pardon of two men now serving terms in a Pennsylvania penitentiary, who were apprehended by internal revenue agents in the act of removing stamps and other marks from over 100 packages of oleomargarine in a warehouse. It is telegraphed from Washington that all the personal and political pressure wielded by the oleomargarine interests of the West are being used in behalf of the convicted men. For three years the cases were stubbornly contested in the courts. Offers to compromise them for $8000 were refused, and the men were convicted. We cannot see why the oleomargarine interest should be invoked to free men detected in stealing revenue stamps just because they were on bogus butter tubs. It does not in any way enter into the merits of their contention. We might admire their loyalty to men fined for selling unstamped butter, but to defend men caught tampering with revenue stamps seems small business even for a great firm of counterfeiters to be engaged in.

QUERIES AND REPLIES.

Rotation of Crops.

To the Editor:—Is there a book on rotation of crops which will give satisfactory information for a California farmer?—Reader, Riverside County.

There is no publication on rotation of crops which is directly applicable to California conditions. A general discussion of the subject is given in one of the chapters of a book by Prof. Roberts of Cornell University, entitled "The Fertility of the Land." This book is published by Macmillan & Co., New York, and can be ordered from the Pacific Rural Press, postpaid, for $1.25. The subject of rotation has, however, to be considered in connection with soils, climatic conditions and other adaptations of the locality, and is governed also by the use of crops which can be profitably disposed of. For these reasons the Eastern publications are not directly applicable to California, though they are suggestive if one has local information necessary to supplement the discussion of principles.

Almond Growing.

To the Editor: — Is Tehama county good for growing almonds, or what sections are best adapted for this purpose?—Enquirer, Philadelphia.

Selection of lands for raising almonds depends more upon conditions affecting spring temperatures than upon any geographical consideration. Locations must be chosen which are comparatively free from spring frosts, as the almond blooms first of all our fruit trees, and is the most liable to frost injury. There may be good locations for them in Tehama county, at proper elevation, but planting on low lands anywhere, even where the soil is perfectly adapted to the growth of the tree, has proven a very disappointing proposition. Large areas of almond orchards in the Sacramento valley, as well as in other parts of the State, have been condemned for firewood because of frost injury preventing the bearing of the tree. For this reason we cannot state what section of the State is best adapted, because here and there all over the State—except, of course, in the mountainous counties—there are localities where the almond is satisfactory. The proposition is one which needs to be looked into very carefully for the reason stated. The best way to make selection of land for the almond is to ascertain what has been the record of orchards in the regions visited. There are places where reasonably regular crops are secured, and others where nothing has been secured but losses and disappointments.

Propagating Apples.

To the Editor:—I send you apples from two trees which have long been grown in my orchard, and they seem the best we have. I would like to plant more of the same kinds. Can you give the names, so that I can be sure to get the same from the nurserymen? —Apple Grower, Monterey County.

The apples are both handsome, medium-sized, striped, red. We cannot name them, nor can we find anyone who will take the responsibility of advising where so much depends upon the right choice. The best way to proceed in such a case is to make trees from the old ones by root grafting scions from your own trees upon such seedling roots as you can buy, or start the growth by side grafting pieces of apple root into the scion, so as to support it until it strikes its own roots. If you do not care to undertake this work yourself, any nurseryman will take your scions and grow you any number of trees you may desire. If then your apples are seedlings, as possibly they may be, you may be sure to reproduce them exactly. This is very necessary when the ones you favor seem to be the survival of the fittest for your locality.

Rye Growing.

To the Editor:—Please give me particulars about raising rye: seed per acre, cultivation, etc. I have good black sandy soil which raises from two to two and one-half tons of black oat hay per acre. I want to try rye. Is the straw good for feeding? Does rye thresh out easily, so one can use horses when a machine is not around? Is it planted or sown in fall or spring?—A. A. M., Watsonville.

Rye is grown just as other common cereals are. It is the most hardy of them and stands cold, drouth and poor soil better than the others. It is fall or winter sown. It does not thresh as easily as oats but still can be tramped out. Rye straw is tougher than other straws and consequently is less available for stock feeding, but rye cut green is very fine winter forage. If you do so well with oats we can hardly see why you wish to try rye. It is chiefly grown where other grains are not satisfactory and it seems to us that you do not need such a recourse at present.

Tobacco Growing.

To the Editor:—Is there any likelihood of my obtaining a situation next spring with a tobacco planter in California. I am employed at present on a tobacco farm and would like to find similar employment in California.—E. E. C., Connecticut.

There has been occasionally a call for a man capable of curing tobacco in California? There are no large planters who have ever made any considerable amount of money in tobacco. There are more instances where large amounts af money have been lost owing to the difficulty of producing tobacco satisfactory to the trade. The trouble is not in the growing. The plant succeeds from end to end of the State when suitably planted on proper soils. Some growers have produced in a small way cured tobacco which is satisfactory for local use or manufacture, but the business has at present but limited commercial standing, and we do not know of any one who could furnish such employment as our correspondent desires. One difficulty would be that probably experience in handling tobacco in the Connecticut valley would not be a guide to similar work in California, though there is reason to believe that an experienced man who has gumption enough to understand local conditions can help us in arriving at satisfactory local methods.

A Potato Problem.

To the Editor:—What ails our potatoes in this locality? Early Rose do fairly well, but Burbanks are somewhat of a failure. They grow well enough; the crop is satisfactory, but the potatoes themselves are full of black spots on the inside. The elevation is 2000 feet; red lava soil, very light and fluffy, and can only be plowed when absolutely wet or absolutely dry, and then only with a chilled plow. The surface does not hold moisture for any length of time. The subsoil is hard and clayey; would make good brick, and is very retentive of moisture. The soil is poor and must be heavily manured. Potatoes are planted in April and dug last of August.

We practise, for the most part, flat cultivation; keep the water near the surface and water once a week, on some parts of the patch in daytime and some at night; plant moderately deep and do not firm the soil much. The difference of temperature between day and night is very extreme.

The affected potatoes are abnormal in shape and appearance and are apt to be found near the surface of the ground. They have a rough skin, yellowish, cadaverous complexion, hump themselves up in the middle, run to a peak at the "blossom" end and tend to have the eyes of this end full of tiny dark potatoes. The blossom end seems to be more affected than the stem end, and the dark patches to be more or less in concentric rings. Such potatoes keep well enough, but will not sprout in the following spring.

The good specimens are long, cylindrical, slightly flattened, and are found deep. The trouble does not seem to be a disease, but due to soil, climate, or methods of cultivation.—C. M. Waterman, Magalia.

This is a very interesting proposition and one upon which comparison of observations is very desirable. It would seem from the description that the soil is about as unfavorable as could be imagined for a potato. How it could be a well-behaved spud after being baked at night, and chilled at noon, and drowned once a week on a retentive subsoil, is hard to see. Who knows about such things?

Walnut Propagation.

To the Editor:—I have about a thousand seedling walnuts about 6 inches high. Do walnuts come true from the seed, or will I have to graft or bud them to get good varieties?—Subscriber, Santa Cruz county.

The English walnut usually comes truer to seed than other fruits, and yet there is always a certain amount of variation. The practise in the South, where the most walnuts are grown, has been, however, to depend largely upon seedlings grown from the best selected nuts, though more grafting is now being done. Another problem comes in in your case, and that is: the variety which is commonly grown at the south is not well suited to the central and northern parts of the State. If you have grown your seedlings from southern nuts, the result would be, therefore, somewhat questionable. The improved French varieties are best for northern localities. Among the best varieties for the central part of the State are the Prœparturiens, Mayette and Chaberte. You could root-graft these scions upon the seedlings roots which you have and in that way get trees of a known variety. It is best to root-graft the walnut by cutting the top off square and inserting the scion into a triangular notch in the side of the root, cutting the scion to fit nicely, and then binding well with a waxed cloth. Budding the walnut has to be done with the ring bud and is rather a difficult proposition—in fact, it could not be done on such a small seedling as you mention. In our book on "California Fruits" all these matters are discussed in detail.

Fertilizer for Hill Land Corn.

To the Editor:—What kind of fertilizer and what amount should be used on high hill soil in Napa county? How should it be applied? Would an application to the corn just as it appears above ground be likely to have good results? What would be the cost per ton of such fertilizer and approximate cost per acre? Would it pay to fertilize at present prices of corn?—Subscriber, Napa.

The discussion on fertilizers in our issues for Dec. 2 and Dec. 9 will be interesting and suggestive in this connection. You probably need nitrogen and phosphoric acid most of all, though potash may also be very profitable. You can try the two first together on one piece, and add potash on an adjacent piece, but choose the pieces so that there will be no wash from one to the other. The best way to make the application for corn in this climate is at the last plowing just before planting the seed. Corn has to be planted so late to avoid chance of frost that there may not be enough of rain to carry down a fertilizer which is applied to the corn as it comes above the ground. Besides, fertilizer thus applied may for lack of water of distribution be so concentrated at one spot as to kill the young corn. Prices of fertilizers can be best had from those who advertise them in our columns. As for profitability of fertilizers on corn, one can only cite the general experience of corn growers in the older States; if no fertilizers were used there would be mighty little corn in many parts of this country.

Pampas Grass for Stock.

To the Editor:—I would like to know whether pampas grass has any value as food for cattle. I contemplate planting clumps of the grass along a piece of land bordering on the Salinas river, where the river is liable to wash the banks during heavy freshets. I propose to plant the grass at the foot of the bank in the spring or early summer, after the water has receded. I have an idea that the roots of the grass will mat and interweave in the soil and in time make a barrier to the encroachments of the waters in the river. Perhaps some of your readers can give me some information or advice.—Paul J. Romie, Salinas.

Pampas grass has some standing as drouth-resisting forage for stock. Mrs. Harriet K. Strong of Whittier, Los Angeles county, has grown pampas grass for many years, and announced some time ago that she found that stock ate the young growth readily and seemed to thrive upon it. As for holding a bank against the wash, the plant does not make binding roots; but, if the clumps are set closely, the thick foliage ought to serve as a wave barrier. We are not aware how much submergence the plant will stand, but probably it would not get any long continuance of it in the upper part of the Salinas valley.

Temperature and Rainfall.

The following data for the week ending 5 A. M. Wednesday; December 27, 1899, are from official sources, and are furnished by the United States Weather Bureau for the Pacific Rural Press:

California Stations.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Minimum Temperature for the Week	Maximum Temperature for the Week
Eureka	.14	25.25	10.02	15.38	36	56
Red Bluff	.00	9.75	3.83	9.52	26	70
Sacramento	.00	8.99	3.91	6 82	34	42
San Francisco	.00	9.67	3.99	8 26	37	54
Fresno	.00	4.41	1.92	3.29	34	40
Independence	.00	1.66	0 61	2.05	20	66
San Luis Obispo	.00	9 30	1.31	4.17	34	80
Los Angeles	.00	3.34	0.30	5.92	42	82
San Diego	.00	1 84	1.09	2.89	48	80
Yuma	.00	0.58	1.32	1.62	42	76

HORTICULTURE.

Fruit Varieties Approved at the Southern California Experiment Station.

Read at the Pomona Farmers' Club, Dec. 11, by J. W. MILLS, foreman of the station.

At the Southern California Experiment Station there are between 1100 and 1200 varieties of fruit divided among about seventeen standard divisions. There are about 140 varieties of apples, 165 plums, 90 pears, 85 peaches, 35 apricots, 41 cherries, 16 almonds, 56 olives, 52 figs, 255 grapes, besides a number of varieties of persimmons, pomegranates and loquats, about all the varieties of citrus fruits and walnuts. In addition to these there are 100 or more varieties of small fruits.

APRICOTS.—During the last year a number of new varieties of fruit have proved to be very desirable. Among our 35 varieties of apricots, Flickinger and Smith's Triumph proved to be excellent driers. Fruit ripe enough to dry was picked from Flickinger from July 5 to 20, and from Smith's Triumph we picked frm July 10 to 26. The samples show what the fruit looks like when cured in the usual way. Both varieties averaged about five pounds to one in drying. The trees had been planted five years and bore a little over 100 pounds of fruit per tree. The dried fruit sold for 10¼ cents a pound wholesale.

Peach-apricot was too fine for drying, making much finer looking fruit than Moorpark. Peach is one of the standard canning varieties and is a moderately good bearer. The fruit is large and even-sized, ripens evenly, and makes few culls. It ripens from July 8 to 18.

Gold Dust ripens June 10 and will keep for a week after it is ripe enough to fall from the tree. It has a brilliant yellow color, almost red, the finest colored apricot that grows. It comes and goes before the Royal is half ripe. Three and one-half pounds of green fruit make one of dried. But alas! it is so sour that it "makes the hair stand on end like quills upon the fretful porcupine." The excess of acid in this variety should make it desirable for seafaring men.

Our best apricots for home use are Newcastle, Sardinia, Oullins, Large Early Montgamet, and De Coulargc, beginning about June 12 and ending July 30, ripening in the order named. By far the finest flavored and appearing apricot is Luizet, but it is a very shy bearer.

PEACHES.—The standard yellow clings, such as Sellers, Yellow Tuscany and McDevitt are favorites with the canners. Muir and Lovell sell well for yellow freestones. Muir is perhaps the best drying peach for this section.

A good selection of freestones for table use would be Andrew's June, Yellow St. John, Early Crawford, Mountain Rose, Large Early York, Ford's Improved, Foster, Wiggins, Coolege's Favorite, Lucomb's Honey, Triana, Susquehanna, Stump the World, Smock's Late Free, Climax and Salway. These ripen in the order named and cover the period from June 21 to September 25. If the list is too long, every alternate variety may be left out, keeping Yellow St. John, Mountain Rose and Lucomb's Honey. Bidwell's Late ripens November 15, is a good white freestone, juicy and sweet. Lucomb's Honey is an exceptionally fine table peach, having a flavor that is superior to any other variety on the place except Triana, which is an uncertain bearer.

PLUMS.—River's Early Prolific is our earliest black plum, and can be recommended for the home orchard. It ripens with the Cherry plum and is about the same size. Tragedy is perhaps the best table plum in its season, which is a long one, extending over a period of 42 days during the last season. Wickson is a superb plum, and is unexcelled so far in our collection of 165 varieties. It is a good shipper and is a good keeper unless left where some one can get at it. Satsuma is our best plum for jellies and jams. Its color and flavor are admirably adapted to these purposes. Wayland, Honey Drop, Golden Beauty and Caddo Chief are native American plums that do well here. They should be picked up from the ground and laid away until soft before they are fit to eat. Of the Green Gage type, Ontario proves to be the best. Uncle Ben is a fine Gage plum, and ripens about November 20. All of Burbank's new plums have been introduced at the station, but it is too early for them to bear.

PEARS.—Duchess de Angouleme is one of our best large pears; also Easter Beurre. So far they have escaped the blight. Du Monceau and Epine Dumas are our best fall pears.

APPLES.—Early Ripe is a good early summer apple. Skinner's Seedling, Red Astrachan, Stump and Gravenstein have proved to be desirable summer varieties. White Winter Pearmain, Winesap and Missouri Pippin are good fall and winter apples.

FIGS.—Angelique is our best early summer fig. A very fine amber-colored fig with red flesh came to us from Washington, D. C., under five different names. It ripens its first fruit late in the summer and continues till frosts stop it. The flavor is rich but mild. This fig will go through fog and rain without souring. We call it White Datatto. Verdale Tongue is a good fall fig, but has a strong flavor.

NUTS.—Almonds are too uncertain for this locality. The trees grow thriftily, but will only average about one crop in four years.

Walnuts are not quite at home in the Pomona valley, late frosts frequently killing the blossoms.

GRAPES.—Out of our 225 varieties we are able to select a number of good table grapes. For arbor grapes, Chavooshee, a long, large white Persian variety, is particularly fine. It ripens early in September. Emperor is an exceedingly fast grower. The bunches and berries are large. Cipro Nero is our best flavored late grape. It continues to bear second-crop fruit till late in the fall. The berries are medium-sized, oval and a reddish purple in color. Almeria resembles Muscat in appearance. It is very tough and hard, a first-class shipper and will keep till midwinter. All these varieties require long pruning to make them grow, and especially Almeria.

For short pruners, Black Malvoise, Chasselas Rose, Cinsaut, Black Morocco, Verdel, Torok Goher Noir and Napoleou are our best.

Our collection of eastern grapes are too young yet to bear.

Our small fruits have not had a fair trial, the station having been short of water for two years.

ROSELLE.—Hibiscus sabdariffa (Rosella jelly plant) is quite an acquisition. It produces an abundance of fruit in exceedingly dry places. Jelly made from the pods is a good substitute for currant jelly. While the jelly is not as fine as that made from Satsuma plums, it can be produced in any back yard. It is an annual and a rapid grower. If given too much water it will produce very little fruit.

Luther Burbank's Hints on Grafting.

There will be so much grafting in of new varieties this winter that suggestions as to materials and methods will be welcome. The following are suggestions by Luther Burbank of Santa Rosa who is creating so many varieties to induce people to do grafting.

BEST GRAFTING WAX.—One pound tallow, two pounds beeswax, four pounds rosin. Slowly melt all together, stir well and when partially cooled pour into pans which have been moistened or oiled to keep the wax from clinging too tightly to them. When thoroughly cold break into convenient pieces.

Raw (not boiled) linseed oil is often preferred to the tallow, and in very warm regions a much larger proportion of rosin will make the wax less apt to run, reducing its cost also, as the beeswax is the most expensive though an indispensable article in its composition.

For use it should be melted and applied carefully over all exposed cuts and open cracks around the grafts. A small paint brush is the most convenient for this purpose. It can be applied safely much warmer than can be borne by the hand, but care should be used not to have it very closely approaching the boiling point of water.

BEST TIME FOR GRAFTING.—Commence in January if much is to be done. February is probably the best month on most of the Pacific coast. March is as good if the grafting wood has been well kept. April is not too late, and May, sometimes and for some things, is a good month.

SIZE OF BRANCHES TO BE GRAFTED.—One and a half to 2 inches in diameter is the best for old trees. If cut back to where the branches are thicker the tree receives too great a shock, the grafts do not take hold as well and the tree forms a close, bunchy head which is not ornamental or profitable. Graft the branches where you wish them to grow to form a new top, leave many twigs and smaller and unimportant branches to keep the sap up until the grafts have made one season's growth. All suckers near the grafts should be pulled off as soon as they appear.

CARE AFTER GRAFTING.—It is very important to watch and cut back a part of the new growth early in the season, else the wind may get too great a leverage and break out the grafts before fully healed over. It is also often best to reinforce them for a while with a small twig or stick tightly tied to the old branch and lightly tied to the new growth.

Sparks' Mammoth Too Shy.

TO THE EDITOR:—I have been waiting to hear the experience of growers of Sparks' Mammoth Apricots in this county, but there have none showed up. The original seedling tree grown by Mr. Sparks was grown six miles from here and was standing not a great while ago. It has been noted for being a shy bearer. There have been thousands of trees set in this and adjoining counties. It is the universal complaint that the variety is too shy for profit. I have 800 trees six years old, and twelve fifty-pound boxes of fruit were the most I ever got in any one year. The fruit was splendid, but not enough. It is true I have several thousand in the nursery, but I will not offer them, in fact I would advise any one in any part of the State to leave the Sparks' Mammoth alone. I believe they are more profitable for firewood than fruit. I shall either work my trees over to Royal or make stove wood of them—perhaps the former.

Montalvo, Ventura County. O. P. COOK.

Treatment of Root Knot.

Some experiments at the Arizona Experiment Station support the California method of treating root knot and are interesting to lay before our readers in the language of the Station Botanist, J. W. Toomey, who says: "My investigations clearly indicate the communicability of this disease, but they do not as yet show the specific cause of it. The greatest attention must be given to the selection of stock in planting young orchards if the disease is to be held in check. Not only should nursery stock having galls upon the roots be discarded, but trees should not be planted that come from infested nurseries, even if they appear perfectly clean. In planting trees it is impossible to recognize diseased trees when the gall is just starting or is but one or two lines in diameter.

"Each season for the past five years experiments have been made to determine the effectiveness of blue-stone in checking the development of the gall at both the earlier and later periods of its growth. Other fungicides, alone and in various combinations with blue-stone, have also been tried. My experiments indicate that blue-stone is the best fungicide yet tried in combating the disease, although it will not always kill or prevent the development of a growing gall.

"The following method has been found the most effective in applying blue-stone: Mix a given weight of pulverized blue-stone with twice the weight of lime, add sufficient water so that when slacked the mixture has the consistency of paste. Remove the galls with a hatchet and cover the wounds with a thick layer of the paste. All galls removed should be gathered and burned."

FRUIT PRESERVATION.

The Citron.

By B. M. LELONG, Secretary of the State Board of Horticulture, at the Fruit Growers' Convention.

The fruit of the citron is generally oblong, or of conical shape, and swollen, more or less striped or furrowed, and particularly large. The skin is of the color of the lemon and very aromatic. Some varieties are very smooth, while others are covered with warty excrescences and very thick and highly scented. The pulp is less acid than the lemon and quite bitter. The flowers are purplish outside and white within, leaves subserrate; young branches violet tinged. The tree is very susceptible to frost, as much so as the lime. Most varieties of the citron have "two rinds," i. e., the outer one, thin with miliary glands full of very fragrant oil; the inner, thick and white, very sweet and agreeable. It is for this inner rind that the citron is valued and it is used extensively in cookery, both in its candied and preserved forms.

PROPAGATION.—The propagation of the citron is quite simple. It can be grown from seed or cuttings or multiplied by budding. The seed of the citron germinate quite easily, but much care is required to be successful. After the seed is washed out of the fruit it is kept moist and never allowed to get dry, for in drying the kernel loses its power of germination. The seed is planted in the spring after all danger of frost has passed, either in prepared seed beds on the ground or in boxes, preference being given to boxes of the propagating class. The most convenient size I use are made of light redwood 20x20 inches and 4 deep. Three inches of good soil is placed in the box, then leveled and pressed down with a board. The seed is then scattered on the surface broadcast and covered with an inch of leaf mould mixed with sand, and watered. Great care must be taken from this time on that the soil be kept moist and yet not too wet, as the seed rot easily. The seed germinate in about a month, or longer if the weather be cold. The plants are kept in the boxes till the spring following, when they generally have attained a growth of from 6 to 10 inches. They are taken out of the boxes and planted in nursery row.

The cuttings are planted in the spring of the year. They are cut of one or two year old wood and from 8 to 14 inches long; varying in thickness from the size of a lead pencil to one or more inches in diameter. They readily take root and can be moved to orchard form in the spring following, but are generally left two years in the nursery in order to obtain a better and stronger root system.

The citron takes readily on any stock of the citrus family. The best time to bud citrus trees is in the spring of the year, just as the stocks begin to put forth and the sap flows freely. Buds inserted early

in the season start with vigor and by fall have a large and thrifty top.

The citron root is quite delicate and brittle, more so than the lemon. While the cutting system is one of the quickest ways to grow the citron, budding on hardier stocks, such as the sweet orange, is the most preferable.

VARIETIES.—Numerous varieties have been introduced, many of which are yet being experimented with. The lemon, or Sorrento variety, was among the first introduced, and has fruited regularly ever since; shape, oblong, like the lemon, with a very pleasant aroma, which is much esteemed; skin bright yellow, smooth and very glossy; inner skin white, coarse and thick, with very little trace of bitterness; pulp very bitter and very deficient of juice. The fruit grows very irregularly, some very large and others very small, the largest weighing from three to five (or more) pounds each. Other varieties grown are: Pomo de Adamo, Macrocarpo, Incompic, Piroltono, Cedro Vera, Testa de Turco, Limoniana, Lyman, a Florida variety said to be very good; Orange, a round citron.

PRESERVATION.—The fruit, when bright yellow, is picked and placed in barrels filled with brine, and left for at least a month. The brine is renewed several times and the fruit allowed to remain in it until required for use, often for a period of four or five months. When the citrons are to be candied they are taken from the barrels and boiled in fresh water to soften them. They are then cut into halves, the seed is removed, and the fruit is again immersed in cold water, soon becoming of a greenish color. After this it is placed in large earthen jars, covered with hot syrup and allowed to stand about three weeks. During this time the strength of the syrup is gradually increased. The fruit is then put into boilers with crystallized sugar dissolved in a little water and cooked; then allowed to cool, and boiled again until it will take up no more sugar. It is then dried and packed in wooden boxes.

IMPORTED CITRON.—So far the citron consumed in the United States is imported from Europe. Most of it is shipped to Eastern houses and by them prepared for market. In this way importers avoid the payment of a duty on same. This important oversight on the part of Congress should enlist the attention of California growers. The citron commonly used by confectioners, bakers and candy-makers is imported already prepared.

For several years there have been regular importations of citron in brine coming in large hogsheads, almost entirely from Leghorn. It has come to two houses in New York and four houses in Chicago, all of whom put it through the process of candying or sugaring. It costs about 4 cents a pound landed in New York in the brine. I am informed by reliable houses that the demand for this whole country yearly equals about 12,000 cases of some 250 pounds each after it has been candied.

One of the largest importing houses of Chicago says: "The best quality of citron are raised in Corsica; the next best quality in Greece, and the poorest in Sicily." Another large importing firm of Chicago says: "The citron that we import to this country is mostly grown on the Isle of Corsica, some being shipped from Messina, Italy, and some from Greece, but that shipped from those countries is not considered as good as that which is shipped from Corsica. The price generally rules from 12 shillings and 6 pence up to 18 shillings and 6 pence, cost and freight, New York. We do not know of any citron grown in this country. It would be a saving to the trade west of the Rocky mountains, but it would not be if shipped East, as the freight would be more than the freight from the Isle of Corsica."

The citron grows and fruits well in California wherever the lemon thrives. The tree is easy of culture, and the preparation of the rind simple, therefore there is hardly any reason why the California grown citron, were it accorded the same protection that the orange and lemon now have, should not supplant the imported.

FRUIT MARKETING.

Co-Operation in Marketing Pacific Coast Cured Fruit.

From an essay by Prof. C. W. CHILDS at the Fruit Growers' Convention.

President McKinley in his annual message says that "combinations of capital organized into trusts to control the conditions of trade among our citizens, to stifle competition, limit production and determine the prices of products used and consumed by the people, are justly provoking public discussion and should early claim the attention of Congress."

The recent United States Supreme Court's decision in the pipemakers' case indicates what verdicts may be expected from the court against the bad features of trusts. No economic tendency at present is receiving so much attention from our political economists as is the unmistakable drift toward concentration of capital in corporate bodies, commonly known as trusts. All of these writers find good and bad features in these various trusts.

The horticulturists of California have been forming combinations for mutual profits and protection, and they have tried to eliminate the bad features which prevail in such corporations as the Standard Oil Trust. These fruit corporations have generally been of great public value as they are working in the interest of producer, consumer and merchant by lessening some of the expenses and decreasing some of the friction that are usually incident to individual competition.

WHY FORM A NEW ASSOCIATION?—I shall endeavor to explain why we are attempting to form a Pacific Coast Fruit Association to handle all the cured prunes, apricots and peaches on this coast. This is a very ambitious scheme, as deciduous fruits are produced in patches of country scattered throughout the region from Arizona to British Columbia, and from the Rocky mountains to the Pacific ocean; however, northern California, Oregon and Washington produce about seven-eighths of this fruit. The principal markets for these products are far away and transportation facilities are very unsatisfactory. At present a great majority of the fruit growers try to sell their crops as early as possible for cash, fruit delivered f. o. b. Some consign to Eastern dealers. This indiscriminate competition of individual growers has made the market price of cured fruit so fluctuating and uncertain that many dealers in this product, both in California and in the East, have lost heavily. In Santa Clara county 80 per cent of the fruit dealers, outside of the "associations," have become bankrupt. For various reasons well known to the orchardists the cost of producing cured fruit is greater now than it was five years ago, while the price of cured fruit has steadily declined, so that at the present time orchardizing is unprofitable in many localities.

EXPERIENCE IN SANTA CLARA COUNTY.—Fruit raising is the most important producing interest in Santa Clara valley, and much of the best land is now planted in fruit trees. Of late years we have planted mortgages quite as rapidly as trees and much more effectively. With the decline in prices of cured fruit, real estate has decreased in value probably 50 per cent within five years, and yet we are told that we are too prosperous to fully realize the great necessity of co-operative effort in handling our cured products.

During the decade just closing—1890 to 1900—several co-operative associations have been formed in Santa Clara valley. Some of these—the West Side, Campbell, Berryessa, Willows and East Side—dry, pack and market the fruit of their stockholders, while the others known as the Santa Clara County Fruit Exchange and Santa Clara County Fruit Union, receive the cured product, grade, pack and sell it. In order to lessen the cost of handling cured fruit and to limit the evils of home competition, negotiations, begun in 1894, resulted in the establishment in 1895 of a common agency, known as the California Fruit Agency, through which the Exchange, Campbell, West Side and East Side organizations have since that time made their sales. The spirit of distrust, which is the farmers' devil, cast its malign influence over the other organizations, and also over the individual fruit growers throughout the valley, and the agency failed to accomplish its full measure of success.

These associations, though not realizing the hopes of their founders, have been of great value to all fruit growers in this valley. Many, through selfish motives, have kept out of these associations, and thus injured themselves as well as those who paid for co-operative work. The associations will market this year about one-fifth of the cured prunes produced in this county. It would seem from this statement that four-fifths of the prune growers in Santa Clara county are still enjoying all the profits and pleasures that pertain to single blessedness.

OVERPRODUCTION.—We are also confronted with the condition of overproduction, or, perhaps, better stated as under consumption. Last year the people of the United States consumed about 75,000,000 pounds of cured prunes. And we shipped to foreign countries about 10,000,000 pounds. Under favorable circumstances Santa Clara county will produce about 100,000,000 pounds of cured prunes next year, and the rest of the Pacific coast about the same amount. Evidently we must induce the people of the United States to eat more prunes, and we must also expand the foreign market for the same, or we must lessen the production of this fruit. What shall we do to be saved from bankruptcy?

WHAT THE NEW ASSOCIATION WILL UNDERTAKE.—As it seems impossible to induce more than one-seventh of the prune growers in this country to sell through the Dried Fruit Agency, and as it is necessary to form a combination of at least 75 per cent of the prune growers on this coast, in order to fix a minimum price and to regulate the distribution of cured prunes, an attempt is now being made to form a combination of fruit growers upon a broader basis than that of any existing fruit organization. This combination will be known as the Pacific Coast Fruit Association, and it proposes to grade, pack, inspect and market all the cured prunes, and, possibly, all the cured peaches and apricots produced on this coast. This association is modeled on the plan of the Raisin Growers' Association, and the contract which the prune growers must sign is, in the main, a copy of the raisin growers' contract. This document has been prepared by legal experts who have tried to draw a contract that would be acceptable to all parties and legally invulnerable.

The association proposes to transact its business with and through the existing channels of trade, consequently the various unions, associations and packing houses now dealing in cured fruit will sign a packers' contract, similar to the growers', and proceed with their business.

Provisions may be made in the by-laws for limiting the liabilities of stockholders, electing the directors, requiring the officers to give proper bonds, and for other safeguards and necessities.

THE WORK TO BE DONE.—The founders of the Pacific Coast Fruit Association hope and believe that this organization will be of great value to the producer, packer and consumer. By fixing a minimum price for cured fruit the speculative element in buying and selling fruit will be eliminated and this business put upon a stable foundation. Eastern and foreign merchants will then buy earlier in the season and keep a larger stock in store. If protected by an established association price, which cannot be lowered during the year, these dealers will make a special effort to increase their sales of cured fruit. By having under one control all, or nearly all, of the cured fruit on this coast, a more economical and a much more systematic plan of advertising would be inaugurated by the producers. Agents could be employed in every Eastern State and in foreign countries to distribute fruit in small packages, teach people how to cook it, and thus assist in creating a taste and desire for our cured fruit. Granges and Farmers' clubs could be induced to handle a large amount of fruit. Through these various agencies, properly directed as they would be by the association, the consumption of cured fruit could be quadrupled in a very short time. The Board of Directors would employ a first-class business man as general manager. He would cause the fruit to be distributed in such a manner as not to glut any market and yet keep all fully supplied. He could obtain the cheapest possible rates of transportation and he would probably be able to have the present unequal, unfair rebates abolished.

As another result of the concentration of fruit, the manager, or the individual grower, could readily obtain money to carry on business at a very low rate of interest, probably at 6 per cent, or even less. The manager would undoubtedly have every facility at his command for obtaining just such accurate information as is needed in managing the fruit business. Frequent consular reports would be at his service, for he would be the representative of a great and influential body of people. We now have, each year, a large amount of small and usually defective prunes, which ought not to be put upon the market as cured fruit. All prunes which are graded above 100 to the pound, and perhaps all above ninety to the pound, ought to be treated as a by-product. If all of this defective fruit is controlled by this association, it may be crushed, pressed into blocks and used for hog feed, for which purpose it is worth at least 1 cent a pound. Other ways and means will be devised for utilizing all fruit products that are not wasted or sold at a loss.

In short, if this association is organized it means to the producer less friction, less worry, less expense and greater profits; to the consumer, cheaper and better fruit; to the packer a larger and more satisfactory business. Shall we organize? Not while the senseless notion prevails that a price may be fixed for our fruit and a market found for all of it by getting the growers to sign an agreement not to sell fruit below a certain price, and then allow him to handle and sell it himself.

CEREAL CROPS.

The American Corn Crop.

The growing popularity of American corn in all parts of the world is illustrated by the November statement of exports of breadstuffs, just issued by the Treasury Bureau of Statistics. It shows a larger quantity of corn exported in the eleven months ending with November, 1899, than in the corresponding months of any preceding year, and at a higher rate per bushel than in any year since 1895. The total exports of corn in the eleven months ending with November, 1899, were 185,832,659 bushels, valued at $74,742,127, while in the corresponding months of last year the 185,284,340 bushels exported only brought $68,513,147, the average export price in the eleven months of 1899 being 40 cents per bushel, against 37 cents in 1898 and 31 cents in the corresponding months of 1897. That the growth has been steady and rapid is shown by a comparison of the figures of 1898 and 1899 with those of 1893 and 1894. In 1893 the exports of corn in the eleven months ending with November were 48,602,183 bushels, and in 1894 37,910,232 bushels, the total for 1898 and 1899 being more than four times as much as that of 1893

and 1894. In cornmeal the growth is equally rapid, the exports during the eleven months of 1893 and 1894 being, respectively, 235,241 and 237,095 barrels, while in the eleven months of 1898 the figures were 773,083 barrels, and in 1899, 798,111 barrels.

Most of the corn exported goes to Europe, and its popularity seems to be gaining there. To the United Kingdom the exports of corn in the ten months ending with October were, in 1899, 69,333,800, against 61,939,167 bushels in 1898; to Germany, 35,804,109 bushels in the ten months of 1899, agaist 34,888,381 in the ten months of 1898, and 27,472,388 bushels in the ten months of 1897; to France the exports in 1899 were slightly less than those of 1898 or 1897, by reason of the unusually large grain crop in that country, while to other European countries the exports of the ten months of 1899 were 42,505,443 bushels, against 39,211,885 in 1898, and 36,866,388 in the corresponding months of 1897. This steady increase in the exports of corn to European countries, and especially the increase in 1899 over preceding years, is the more remarkable because of the fact that the general supply of breadstuffs in Europe in the present year is vastly in excess of the preceding year, when the supply was unusually short, and the fact that a demand for corn continues in the face of an increased supply of home-grown breadstuffs indicates a rapid growth in its popularity.

THE FIELD.

University Distribution of Seeds and Plants.

By E. J. Wickson, Professor of Agricultural Practise, University of California.

The very auspicious beginning of the new crop-year should give our correspondents new courage to cooperate with us in the important work of plant introduction and trial. It is gratifying that even during the prevalence of the discouraging conditions of the last two years we received applications from 661 volunteer experimenters in 1897-98 and 846 in 1898-99 and during the coming distribution we may find interest as wide as in 1896-97 and when we registered 1184 applicants. This phase of Unversity Extension is very warmly approved and brings us into correspondence with enterprising plantsmen in all parts of the State, with mutual advantage to the institution and to them.

AIMS AND METHODS OF DISTRIBUTION.

To reduce as much as practicable the vast amount of correspondence which is entailed upon the station by the distribution, we desire that the following points should be carefully considered by all applicants:

First—Do not apply for things not mentioned in this bulletin. We cannot usually supply things previously offered for distribution. Do not apply for common garden seeds, fruit trees, or ornamentals, which can be purchased at seed stores or nurseries. We cannot supply them. Do not make a general request "for anything which will do in this locality." Apply specifically for what interests you, or may prove of value to you.

Second—We require the applicant to pay a small amount for each thing received, partly to bear the cost of collection and distribution, but chiefly as a guaranty that he has not merely an idle desire for what can be had for nothing, but intends to make trial for a definite end and will report results to us.

Third—Applications may be made for one or more kinds of seed, but an applicant should not order more than one package of a kind. If the supply of any kind of seed becomes exhausted the money will be returned, unless a second choice is mentioned by the sender. Postal notes are requested instead of stamps, whenever practicable. Any surplus left after filling orders will, as far as possible, be returned to the senders, deducting letter postage.

NEW EUROPEAN STRAWBERRIES.

A collection of new strawberries of English and French origin was secured by Mr. J. Burtt Davy, Assistant Botanist of this station, during a trip abroad in January, 1898. The characters disclosed by their fruiting on the grounds at Berkeley warrant wider trial of the varieties as they are likely to disclose something of permanent value. The following are available for distribution:

1. Steven's Wonder.
2. Scarlet Queen.
3. St. Joseph (perpetual).
4. Commander.
5. Royal Sovereign.
6. King of the Earlies.
7. Louise Gauthier.
8. Monarch.
9. Sensation.
10. President Carnot.

We will send the whole collection—one plant of each kind (labeled)—for 25 cents or one each of five kinds (your selection) for 15 cents, postpaid.

TREES AND SHRUBS.

Araucarias.—There are many interesting exotic trees and shrubs on the Flood estate at Menlo Park which recently became the property of the University by gift of Miss Flood. They will constitute a valuable arboretum for study and a source of seed for distribution. Two species of araucaria are represented by several specimens of exceptionally large size. They are elegant conifers whose peculiar branching and evergreen foliage render them striking objects in city parks and suburban residence grounds in various parts of the State. We offer to distribute the seed to make the trees more readily available for rural planting. Two species are offered:

1. Brazalian Araucaria (A. brasiliensis).
2. Monkey-Puzzle Araucaria (A. imbricata).

The seed is large and must be kept moist. Should be planted at once in sandy soil or leaf mold in boxes or pots. Packages of seed 10 cents for each kind, postpaid.

New Zealand Oil Tree (Aleetryon excelsum).—The only species of the genus; habitat confined to New Zealand. A lofty and handsome evergreen tree with glossy compound leaves and abundant, showy seeds in large scarlet arils. The oil of the seeds was used by the Maories of New Zealand. Packages of seeds 5 cents each, postpaid.

Australian Turpentine Tree (Tristania conferta).—A native of New South Wales; a beautiful evergreen with showy yellow flowers. We have grown plants from cuttings of a handsome yellow specimen on the University grounds. Two plants to each applicant; 15 cents by mail, postpaid.

English Holly (Ilex aquifolium).—The free-seeding of old plants at Menlo Park will facilitate the wider distribution of this famous old Christmas token. The young plants are shy of full sunlight and should be grown the first two years in a partly shaded seed bed before planting out.

Desirable Eucalypts and Acacias.—The severe drought lessened the seed crop of 1899 at the Santa Monica Forestry station and has restricted our offering. There is considerable demand for Eucalyptus calophylla and polyanthema for bee pasture. E. Gunnii is one of the hardiest of the genus, and the sap is said to be used by Australian settlers to produce a fermented drink resembling cider. It makes a fair-sized tree at Chico. E. cornuta var Lehmani is a curious and fantastic small tree. E. diversicolor and E. melliodora furnish valuable timber. Acacia cyanophylla is seldom seen in gardens or lawns, but is one of the most beautiful of the acacias. A. pycnantha is one of the best of the tan-bark species. We offer seed as follows:

1. Eucalyptus calophylla.
2. Eucalyptus polyanthema.
3. Eucalyptus cornuta var. Lehmanni.
4. Eucalyptus Gunnii.
5. Eucalyptus diversicolor.
6. Eucalyptus melliodora.
7. Acacia cyanophylla.
8. Acacia pycnantha.

Tagasaste (Cytisus proliferus).—This is sometimes called "tree-lucerne." It is a valuable shrub for bees, providing abundance of blossom in December, January and February.

Tree seedlings can be easily grown in seed boxes of sandy loam, kept warm and moist, but never wet. Cover the seed lightly and partly shade to prevent surface drying. Acacia and Tagasaste seed can be handled in the same way, but it should be soaked over night in hot water before sowing. Tree seeds in packets by mail, postpaid, 5 cents for each variety ordered (except where otherwise specified).

RESISTANT GRAPE VINES.

The success of the French selections from American wild species introduced and distributed by this station has been so marked that many growers are now propagating them for sale and our propagation has been restricted to enough to supply a few to each applicant for trial. The following are offered:

1. For dry, light soils—that is, soils likely to become somewhat dry in summer—the Rupestris "St. George."
2. For deep, moist, heavier, and tolerably rich soils, Riparia "Gloire de Montpellier."

The discussion of these varieties in detail, and their use as resistants, is published in a University Bulletin which will be sent to all who desire it. It must be understood that these vines do not bear edible grapes; they are merely intended for roots on which to graft the desirable table and wine varieties. We furnish five cuttings of either or both varieties to each applicant for 10 cents, for each kind ordered, postpaid.

PLANTS FOR GREEN-MANURING.

Lupins.—We still advise trial of European lupins for fall and winter growth to be plowed under to enrich soils deficient in humus. Bulletin 124 of this station contains a full account of these plants, and suggestions about growing them will be sent on application. The species offered for trial are:

(1) European Blue Lupin.—Lupinus angustifolia cœruleus.

(2) European White Lupin.—Lupinus albus.

The seed is sent in 1-lb. lots, 15 cents each, postpaid.

Hairy Vetch (Vicia villosa).—This plant bids fair to serve a double purpose in California. It makes a fine winter growth (except on heavy soil which is likely to be excessively wet in winter), and is therefore available for covering-in early in the spring for green manure. It is also exceptionally resistant of drought and in many places will grow during the dry season without irrigation. Both as green forage and as hay it is very acceptable to stock, and if sown with oats or barley will rise from the ground so as to be readily handled with the mower. We desire to have both its summer and winter growth tested locally. Reports thus far received are very favorable. Large quantities of the seed can now be had from California seedmen, but to facilitate wide trial, we offer 4-oz. packages at 5 cents, postpaid.

Field Peas from Russia.—Two varieties just introduced from Russia by the U. S. Department of Agriculture should be tried in California both for winter growth for green manure and summer growth for forage. They are represented as particularly hardy.

(1) Bitter Vetch (Lathyrus sativus).
(2) Russian Field Pea.

Packages of seed, 5 cents each, postpaid.

FORAGE PLANTS.

Saltbushes.—Interest in these plants both for alkali and drought resistance is constantly increasing. Very satisfactory information concerning them is given in Bulletin 125 of this station, which can be had on application. The following varieties are still offered for trial:

Australian Saltbush (Atriplex semibaccata).—The value of this species in California has been amply proved. The seed is in constant demand, and is sold by nearly all seedmen.

Saltbush No. 2 (Atriplex leptocarpa).—This low-growing species, a native of East Australia, is better adapted to the regions near the ocean, or subject to cold winds, than is the semibaccata.

Mealy Saltbush (Atriplex halimoides(.—This fine tall species is a native of the Australian deserts. It grows very fast, and begins to seed in three months after sowing. Adapted to hillsides and gulches. Height, two feet.

Packets of seed, 5 cents for each kind, postpaid.

Brown Colman Sorghum.—This variety, received from the Department of Agriculture at Washington, is proving one of the best of the fodder sorghums. It stands first in the trial of a large collection at our sub-station at Tulare. In Berkeley the variety yielded forage at the rate of over 36 tons to the acre. We also offer four other varieties of sorghum, selected at Pomona sub-station, as the best grown there. They were received from Washington last season. Packages of seed, 5 cents for each variety ordered, postpaid.

Millets from Russia.—Five varieties of "broom-corn millets" from Russia were received from the section of "Seed and Plant Introduction," Washington, late last spring, and have been grown at Pomona and Berkeley. The plants did not grow large, owing to lateness of season and drought, but nevertheless yielded well, and seem worthy of more extensive trial, both for forage and seed—the latter perhaps especially for poultry feeding. The following varieties are offered: (1) Tambov; (2) Black Voronezh; (3) Red Voronezh; (4) Red Russian; (5) Red Orenburg. Packages of seed, 5 cents for each variety, postpaid.

Khama Melons.—This curious little stock-melon came from the Kalahari desert in South Africa, and is said to grow well on exceedingly arid soil. At Pomona sub-station, without water, on sandy soil, it yielded at the rate of twenty-two tons to the acre, and cows and horses ate them readily. Seed is scarce; 3 cents per packet, postpaid.

CEREALS.

The following cereals are in part recent introductions by the United States Department of Agriculture, which we have now on trial at our sub-stations, and we desire to secure wider trial through correspondents interested in grain growing.

(1) Hungarian Wheat—the famous wheat of the Theiss valley, held to be of very high milling quality, but not handsome when judged by California standards.

(2) Turkestan Wheat—said to resist great heat and drought.

(3) Winter Ivanof Rye—largely grown in Northern Russia.

(4) Shatilov Oats—highly esteemed in the district of that name.

(5) Golden Giant Side Oats—free from rust and very satisfactory at the sub-station in Amador county.

(6) Danish Island Oats—another of the best at the same sub-station.

Of the first four numbers we can only send small packets at 5 cents for each number selected; of the last two, one-pound packages at 15 cents each, postpaid.

FOR THE GARDEN.

The following garden plants have been shown by trial to be the most promising of large collections which we have secured from various sources at home and abroad:

1. Tall Green Curled Kale.
2. Dobbie's Variegated Curled Kale.
3. Sutton's A-1 Curled Kale
4. Sutton's Improved Branching Kale.
5. Burpee's Profusion Pea.
6. Quality Pea.
7. Laxton's Evolution Pea.
8. Mott's Excelsior Pea.
9. William Hurst Pea.
10. Daisy Carter Pea.
11. Barstow's Sugar Pea.
12. Burpee's Earliest Sheffield Sweet Corn.
13. Mammoth Sweet Corn.
14. Burpee's New Stringless Bush Bean.
15. White-center Scarlet Runner Bean.
16. European Broad or Windsor Bean.
17. New Extra Dark-moss Curled Parsley.
18. Early Dana Potato.

Rates are for kales and parsley, for each kind ordered, 3 cents; for peas, beans and corn, 5 cents; for potatoes, 10 cents.

Application for seeds and plants should be made as soon as this announcement is received. We are unable to continue distribution throughout the year. Address: E. J. Wickson, Agricultural Experiment Station, Berkeley, Cal.

Agricultural Review.

ALAMEDA.

EARLY NEW POTATOES.—Niles Herald, Dec. 22: Joseph Tyson brought to this office yesterday a basket of new potatoes. They are of good size and probably the first of the new crop in the State.

BUTTE.

EARLY GRAIN.—Chico Enterprise, Dec. 19: There are at this office whisks of wheat, oats and barley which were gathered on the farm of Mrs. Schoonover, and each of the varieties is well matured and would have become entirely ripe within a week.

OLIVE INDUSTRY.—Marysville Appeal: Mr. Raub, manager of Porter Bros., is handling Palermo olives largely this year. He will make about 1000 gallons of olive oil and put up 15,000 gallons of pickled olives. He bought the crops on the trees and had the fruit pickled under his direction. Mr. Raub states that orders for green pickled olives were much more numerous than those for the ripe ones.

CHINESE NOT GOOD TENANTS.—Marysville Democrat, Dec. 22: A suit is pending in which T. B. Hutchins is endeavoring to terminate a lease of his orchard near Central House, because of failure of the Chinese lessees to perform well their part of the contract. Mr. Hutchins claims to have been financially injured to the amount of $6000. As the terms of the lease give the tenants control of the orchard during a period of five years, they refuse to leave the place. The leasing of valuable orchards or farms to Chinese seldom brings satisfactory results to the owner. If the property is a good investment for Chinese it certainly ought to be for intelligent American farmers, though the monetary conditions in the case of the former may seem more advantageous. The Chinese do not care for the future of the leased orchard. In the majority of cases the lessor who deals with these people gets the worst end of the bargain.

FRESNO.

ALKALI WEED GOOD FEED.—Reedley Exponent: By the kindness of Louis Bertch, who discovered that hemanzonia, our common yellow alkali weed, makes good cow feed when cut early and stacked quickly and allowed to go through a sweat in the stack, we are enabled to send a barley sack of the hay to the State University for analysis. During a recent visit to the University we called the attention of Prof. Hilgard to the results of Mr. Bertch's enterprise and arranged with him to have an analysis made that the food properties and effect of growth upon soil may be ascertained to a certainty.

KERN.

GRAIN SEEDING. — Bakersfield Echo, Dec. 14: B. H. Lawson, a wheat raiser of the Sandcut, says there will be 20,000 acres seeded to grain in his neighborhood this season. Seeding is now actively going on. Mr. Lawson considers the season propitious for dry land farmers.

LOS ANGELES.

HAY WAREHOUSE BURNED.—Los Angeles, Dec. 21: The Baker-Mead warehouse, on Seventh and Alameda streets, containing several thousand tons of hay and straw, burned this morning. The loss is estimated at $28,000.

NEW BEET SUGAR FACTORY. — Dispatch from Los Angeles, Dec. 20: Nathan Cole, Jr., a large landholder in Antelope valley, has just returned from the East. Cole says that as a result of his trip East Antelope valley will soon have a big beet-sugar factory in active construction. Cole and his associates own large interests in the Antelope valley, and they have been at work upon the sugar factory project for a long time. The enterprise is now stated to be assured. The factory will have a capacity of 350 tons a day. The new factory will, it is expected, be ready to receive the beet crop in 1901. The company has prepared to plant 10,000 acres in beets.

Horse Owners! Use

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A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.

NAPA.

SALE OF HORSES.—Napa Register, Dec. 22: The annual sale of Napa Stock Farm yearlings was held last evening in San Francisco. The youngsters brought an average price of $240.

SAN BENITO.

LARGE RANCH SOLD. — Hollister Advance, Dec. 22: The Carr ranch of 5407 acres has been sold to Charles and Henry Bardin for $49,000.

SAN DIEGO.

OLIVE INVESTIGATION. — San Diego Union, Dec. 21: Prof. A. P. Hayne says that after careful investigation he is convinced the demand for olives is increasing, hence the best of care should be used to produce solid, well-flavored, meaty olives. Good olives are in great demand. Prof. Hayne said that the Rubra, Nevadillo Blanco, Manzanillo, Columbella and Oblitza, wherever he had examined them, were more or less subject to disease in the order named, and advised that they be made over into Missions.

TO UTILIZE FRUIT CULLS.—San Diego Union, Dec. 14: Dr. Leon Labonde, a consulting chemist of Newark, N. J., is investigating the advisability of establishing a factory in this section for the making of by-products of various fruits from culls. It is the idea of Dr. Labonde to use the unmarketable fruits. From oranges and lemons, for instance, condensed juice will be made, the peel will be candied, and oil will be extracted from the seeds. The oil will be extracted from peach and apricot pits and, in short, it is the intention to utilize everything pertaining to fruit that is now wasted. It is also planned to extract neroli, or oil, from orange and lemon blossoms, the growers in France having found this more profitable than raising the fruit. The oil is used in perfumes and is worth $80 per pound.

SAN JOAQUIN.

CANNERY SITE PURCHASED.—Stockton Mail, Dec. 21: P. L. Bush has concluded the purchase of a block of land for the California Fruit Canners' Association, whereon it will begin within the next thirty days the erection of a cannery and the installation of a large plant. It is expected that about 500 women and children and 125 men will be given employment when the cannery begins operations. The building will be 200 by 300 feet and will cost, with the plant, about $30,000. It is expected that about 150,000 cases of canned fruits will be turned out each season, and between $40,000 and $50,000 paid out in wages. The plant will be ready for operation the coming season.

SANTA BARBARA.

PROFITABLE WALNUTS.—Santa Barbara Press, Dec. 14: David Beck has 240 softshell walnut trees in full bearing. They produced this year 45,800 pounds, or 191 pounds to the tree. The trees are set 17½ to the acre, 50 feet apart, and accordingly one acre produced 3339.57 pounds of nuts. The 240 trees occupied 13.7 acres. The nuts sold at an average of 8 cents per pound—$267 for the product of one acre. The total cost of cultivation, harvesting and marketing per acre was $36, leaving a net profit of $231 to the acre, or $3164 for the crop of less than fourteen acres.

SANTA CLARA.

ORCHARD COMPANY INCORPORATED.—San Jose Herald, Dec. 13: The Pomeroy Orchard Company has filed articles of incorporation. The capital stock is $40,000, of 400 shares of the par value of $100 each. The stockholders and directors, with amounts, are: Marshall Pomeroy, $10,000; Ella E. Pomeroy, $15,000; Irwin E. Pomeroy, $5000; Clarence A. Pomeroy, $5000; Delia L. Pomeroy, $2500; Warren H. Pomeroy, $500. D. W. Burchard, attorney.

DIGGING NURSERY TREES. — Santa Clara Journal: The novice who supposes that the nursery stock he sees in the big yards at San Jose is taken out of the ground by the laborious process of shovel and hoe, is surprised at the work done by the tree digger. This invention requires five or six head of the strongest horses to pull it, going entirely under the roots and on each side of the tree, loosening the soil so that the tree may be easily removed.

SANTA CRUZ.

APPLE SHIPMENTS.—Watsonville Pajaronian, Dec. 21: Eastern apple shipments for the past two weeks amounted to twenty-seven cars; total for season, 444 cars.

HOP SALES.—Sales of big lots of hops, aggregating over 100 tons, have been made this month. Prices are 3 cents per pound lower than they were two months ago.

BEET CROP.—Farmers of the Beach road district claim to have 10,000 tons of beets in their fields. J. McCollum, Jensen Bros., L. Struve and John Hughes have 1000 or more tons to deliver, and James Redman will have close to 2000 tons. C. G. Redman, Chesley Stow and others have quite a tonnage to deliver. With fair weather, it will take weeks to get that big crop in. Across the river there is a heavy tonnage in the fields; but the narrow gauge railroad runs through that district, and portable railroad track can be extended from the switches. Last week's storm was quite a blow to the beet farmers, factory and its employes.

SOLANO.

NEW CREAMERY.—Dixon Tribune, Dec. 22: The creamery building has been completed and the refrigerating machinery is on the ground, but owing to the inability of the creamery supply firm to furnish certain parts of the plant work of installing it has been delayed.

NEW PLOW FOR BEET LAND.—Suisun Republican: Farmers engaged in the production of sugar beets have never been able to get a plow which would answer their purposes fully. The trouble has been that no plow would turn the soil entirely over. One which was perfectly satisfactory for shallow plowing did very poor work when sunk to a depth of ten inches. The Benicia Agricultural Works has succeeded in making a plow which meets all requirements. A test was made and the plow did the work in a most satisfactory manner. To test the capacity of the plow the furrow was sunk to a depth of fourteen inches and still the soil was turned entirely over.

RECORD BREAKING FRUIT SEASON.—Vacaville Reporter, Dec. 16: Edward Fisher, cashier of the Bank of Vacaville, informs us that this has been one of the best years for the fruit men of Vacaville, in reality one of the best. This is shown by the fact that there has been paid through the Bank of Vacaville for green and dried fruit this season over $1,000,000. This is high-water mark, and added to such sums as have been received through other sources, and such additional sums as are yet to be received for fruit remaining unsold, will make the aggregate far surpassing previous records.

WILL PLANT HEMP.—S. F. Call, Dec. 20: P. Ettlinger and J. H. Thomas of this city are about to engage in the culture of hemp on a large scale upon Ryer Island in Solano county, opposite Rio Vista. A tract of 300 acres has been prepared for seeding and Mr. Ettlinger is looking for the necessary seed. This he will probably procure in Gridley, Butte county, where hemp has been grown for a number of years. Mr. Ettlinger made the facts known yesterday and also talked about the prospects of cultivating California hemp. He said that he had been in Gridley and had seen the hemp growing some time ago. He had been informed that the raisers of hemp in Butte county were selling their product in the raw state to Eastern people and that they were able to sell all that they raised. This fact made him of the opinion that the hemp was of a good commercial quality. His first planting will be experimental, so far as the commercial aspect of the case is concerned. One question was whether the manufacturers of California hemp could compete in price with those of the East. According to advices the machinery to work up the fiber was not very complicated. California hemp had recently been made into twine, bags, portieres and even a suit of clothes. The last named manufacture was worn away out of the State by W. J. J. Cunningham of Salem, Or., who experimented with the jute machinery at San Quentin Prison to see what he could do with the home-grown hemp and also with home-grown flax. Mr. Cunningham's conclusion was, after experimenting, that there was nothing the matter with either California hemp or California flax. Indeed, he pronounced the hemp superior to the hemp of Oregon, and said that there was no better grown anywhere. Mr. Cunningham was an expert and what he had said was another reason for confidence. Cunningham came down from Oregon at the request of Mr. Heaney of Gridley, to manage the hemp plantation on Heaney's ranch.

SONOMA.

CORN SHREDDER.—Santa Rosa Republican: George Kerrison & Sons have installed a corn shredder on their farm, near Penngrove. The operation of the machine is, in principle, almost identical with that of the threshing machine. A corn stalk, ears and all, just as it is cut from the field, is fed into the machine; out of one spout come ears of corn, husked as perfectly and cleanly as if done by hand; out of another spout issues the stalk, husks, etc., cut up in small pieces ranging from 4 to 10 inches in length, just as if cut by a silo cutter. The machine is run by a small donkey engine, and the crew consists of six men. Messrs. Kerrison husked nearly 2000 bushels of corn on the cob from forty acres. The machine is mounted on wheels and weighs about 2300 pounds. In good corn it will husk a bushel of corn a minute. The price of the machine (not including donkey engine) together with the freight is about $300.

MILKING COWS BY MACHINERY.—Cloverdale Reveille: Tests have been conducted on the large dairy farms of milking cows by machinery. The machine consists of an air pump worked by foot-power, two pieces of rubber hose and eight suction bulbs, which surround the eight teats of the cow to be milked. The eight bulbs greatly resemble telephone receivers. They are nearly hollow, but in one place a soft rubber band nearly closes the opening. When the teat is placed in the opening and the pump starts the suction causes the rubber lining to closely surround the parts, and the milk is carried to the pail, about 4 feet away. Mr. Nehring, the inventor, is personally demonstrating its merits.

SUTTER.

EARLY BARLEY.—Yuba City Farmer: We are in receipt of some sample barley from Cranmore which is fully headed out, with plump kernels. The grain is volunteer and shows a wonderful development for this season of the year.

CANNERY SOLD.—J. J. Pratt, manager of the Sutter Canning and Packing Co., has purchased the stock of that corporation. The institution will retain its name for the present. The Sutter Cannery was organized in 1883 with a capital stock of $50,000, and the plant and business is one of the best in the State.

FOR SALE.

A Dairy Route, Cows, Wagons, Cans, Tools, Engine, Pump, etc., in the best interior city in the State.

Established 15 years. Monthly receipts over $700. Address DAIRY, Rural Press office.

Power for the FARM

Must be first class if it is to operate **Feed Cutters, Grinding Mills, Wood Saws, or pump water** successfully. We manufacture **Engines—2, 4 & 6 horse power. Tread Powers** for 1, 2 or 3 horses. **Sweep or Lever Powers** for 1 to 8 horses. Every machine fully warranted to generate *maximum power* at minimum of force exerted. Catalogue showing *Smalley Line complete* mailed free if you name this paper.

SMALLEY MFG. CO., Sole Makers, Manitowoc, Wis.

The BEST PLOW on Earth at any Price.

Double Board Hardened Steel Plow, hard as glass all over, 16-in. $11.

Guaranteed to scour or money refunded. We have cheaper 16-in. Plows at **$9.50.** Send for Big free Catalogue of Sulkys, Gangs, Disc, Wagons, etc. Write now and get ready for Spring work.



Hard Steel Castor-Coulter with Plow, $1.75 extra.

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"Pasteur" Black Leg Vaccine.

The original and genuine preventive vaccine remedy for Black Leg Officially endorsed in all the cattle-raising States Successfully used upon 1,500,000 head in the U. S. A. during the last four years. Write for official endorsements and testimonials from the largest and most prominent stock raisers of the country. "Single" treatment vaccine for ordinary stock; "Double" treatment vaccine for choice herds.

REGISTERED—"BLACKLEGINE"—TRADE MARK.

"Pasteur" single treatment Black Leg Vaccine READY FOR USE (no set of instruments required). Sold in packages:—No. 1 (10 head) $1.50; No. 2 (20 head) $2.50; No. 3 (50 head) $6. Easily applied. No experience necessary.

PASTEUR VACCINE CO.,

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FRESNO Fertilizer Works, Geo. C. Roeding, Prop., Fresno, Cal.

THE HOME CIRCLE.

The Spirit of Forty-Nine.

A hundred years and more have rolled
Over these vales of blue and gold,

Over these rugged mountain steeps,
These river, lake and ocean deeps—

Since by the Mission's waiting door
The Indian laid his heathen lore,

And lone across the virgin sod,
With patient step the Padre trod.

Above the century's slow tread,
Three flags their glowing hues have spread

But scarce the last one fold on fold,
Its red and white and blue unrolled,

Than bright beyond the sunset dyes,
A new light flamed across the skies.

They caught its flash o'er lands and seas,
It beckoned On, with every breeze,

And Lo! An eager, rushing throng,
With pick and pan, with courage strong,

With hope high set, with steady eye,
Stood out against the Western sky.

A sturdy, stalwart fearless band,
As warm of heart as free of hand,

Glad as the day to do or dare,
And free of speech as mountain air,

Where e'er they passed by pine or stream,
Where e'er their camp fire's ruddy gleam

Lit up the gloom of dusky wood,
Or bridged the mountain's foaming flood—

There Progress paused and built a shrine
To God, for dauntless Forty-nine.

* * * * * * *

Once more they come, not as of yore
To look upon a wild new shore,

But just to live again their prime,
And tell the tales of Auld Lang Syne.

Heap high the board, wreathe garlands gay,
Give mirth and gladness fullest sway,

Let fields be green and skies be blue,
And old hearts find the old hearts true.

Let time roll back to golden year,
The Spirit of Forty-nine is here.

—S. J. Campbell in San Jose Mercury.

Averting a Parallel.

Miss Rebecca Jocelyn had been gardening and was as full of life and hope as the young plants she tended; she therefore felt impatient upon entering the sitting-room to find her sister in tears.

"What is the trouble now, Annie?" she asked ungraciously. "How foolish to sit here with the blinds closed, the glorious morning light and air shut out, crying—as if you haven't everything to make you happy!"

Miss Annie raised a tear-wet face, and rose with gentle dignity. "Rebecca," she said, tremulously, "if at times I seek shade and solitude, it is because they correspond to my inner life. Be more charitable in your judgments and remember that 'each heart knoweth its own bitterness.'"

As Miss Annie's heels clicked softly up the stairs, Miss Rebecca looked after her remorsefully. "It is too bad of me," she said, and she threw open the blinds, letting a flood of sunshine into the room. "Her feelings are much finer than mine and she is so emotional. I wonder what ailed her this morning?"

A magazine lay in the chair her sister had vacated, and taking it up she seated herself by the open window and turned the pages. First, a long article on bee culture, profusely illustrated—she wondered Annie would read the magazine, being so mortally afraid of bees; following it was a story, and the page was wet with tears. Here was evidently the cause of her sister's emotion, so she read the story. It was such a one as all readers are familiar with in some form—young charms outshining old ones, and ensuing grief. In this particular story a maiden lady's heart had long been dedicated to a gentleman who had also seemed to prefer her; then her hopes are abruptly shattered by the appearance on the scene of a slip of a girl, her niece, who infatuates the gentleman and marries him.

When Miss Rebecca reached the conclusion she raised her eyes and looked out of the window with contracted brows. It was rather pathetic, to be sure, but why should it so affect Miss Annie? Her wandering gaze alighted on the house opposite and a smile broke over her face. "It couldn't be that, could it!" she exclaimed, and fell to looking at it so hard that an elderly gentleman who was just coming from the door raised his hat and stood bareheaded under the impression that so fixed a smile must be meant for him.

The hall clock struck nine. "It is nearly train time," commented Miss Rebecca. "Betty must be welcomed properly," and she rose and began to rearrange the already neat room.

Upstairs in her own room, Miss Annie sat drying her tears. "It is too bad! It is really unbearable! I can see it all. Betty, how could you!" She reached for a picture that lay on her table and looked reproachfuly at the fresh young face. "Betty, how could you!" Her sobs burst forth again. "Something must be done," she said. "If I only dared confide in Rebecca! Could I in a general way, I wonder?"

A ring of the doorbell brought her to her feet. "She's here!" exclaimed Miss Annie, tragically, but before the traces of tears could be removed Miss Rebecca was at the door, saying that Col. Wellby, their neighbor over the way, had sent them a basket of choice lettuce, with his compliments.

Miss Annie stood trembling. "I have only one question to ask, Rebecca," she said, solemnly, "did he know Betty would be here?"

"Betty! He doesn't even know we have a niece."

Miss Annie sat down. "I don't feel quite well," she explained. "You will, of course, return our thanks to Col. Wellby. It was very nice of him, very kind and thoughtful."

"I've already returned thanks," replied Miss Rebecca, also seating herself. "Col. Wellby is a neighbor we ought to be grateful for, Annie," she said, invitingly.

"I realize it," faltered Miss Annie.

"He is a gentleman," continued Miss Rebecca, "of good heart and sound common sense."

"I know it," assented Miss Annie.

"He knows his own mind, too. You remember how he simply ignored Miss Smith when she tried so hard to capture him two years ago?"

"Yes!"

"Well, Annie Jocelyn, this seems to me to prove that his heart is already occupied. Further proof is that I've often seen him manage to go out so as to meet you when you are returning from town."

Miss Annie grew quite white. "Rebecca, what are saying?"

"I'm trying to say that I believe Col. Wellby is in love with you and I believe, too, that you're in love with Col. Wellby. Why don't you settle it before something happens?" and Miss Rebecca, startled at her own boldness, fled from the room, reaching the hall as the bell rang again, this time really announcing Betty. Much commotion followed, during which Miss Annie had no time to reflect on her emotions.

Miss Betty Jocelyn was a lively girl of 18 and won her way at once into the hearts of her aunts, Miss Annie and Miss Rebecca, though the former was 38 and the latter 30 years of age. It was almost a trial to Miss Annie that she liked the girl so much. Before she had been there a week Betty had revolutionized the staid little establishment; her popular songs had taken the place of Miss Annie's ballads on the piano, her half-finished pieces of fancy work lay here and there about the tidy sitting room, her guitar occupied the sofa, and her pug dog the mending basket. She had made the acquaintance of every one in the neighborhood, Col. Wellby first of all, after which she sought him constantly, while Miss Annie looked on with worldless foreboding. Miss Rebecca had "said her say" to Miss Annie, and she never repeated herself.

The climax was reached when one evening in the third week of the visit Miss Annie from her window overheard these words in the garden below: "Then you would really marry a man so much older than yourself?" asked the colonel, and Betty answered with a matter of fact "yes."

Miss Annie sat dry-eyed and calm. She had known it would come. "There is only one thing I blame myself for," she said, looking about the room, which suddenly seemed quite empty. "I might have warned him and did not. I don't know that he would have heeded it, but at least I might have done that much. My dream is over," she exclaimed to the familiar objects that had received her confidences, "but my duty shall be done now, though so late."

She descended to the sitting room and returned with the magazine containing the parallel story, pencil in hand as if to mark a lesson. Her firmness almost gave way as she reread the secret tender thoughts the heroine had directed to the hero, but she passed quickly along till the entrance of the niece, when the pencil came into play. After the description of the niece's beauty she wrote in a small disguised hand, "skin-deep," "fleeting"; when her "artless" ways with the elderly lover were dwelt on, she drew a line through the "less" and wrote above it "ful"; after the various stages of his infatuation she wrote "ineautious," "unwise," "foolish," "absurd"; and at his proposal she wrote "a ruinous mistake," "happiness impossible." She then wrapped the magazine and addressed it to Col. Wellby, still in the disguised hand. Then she laid her head on it and wept for a moment. "If I cannot be happy," she whispered, "at least I will not see you invite misery blindly."

She retired early without seeing any one, and 6 o'clock the following morning saw her walking firmly in the direction of the adjoining town, three miles distant, where she meant to mail the magazine to prevent any possible suspicion of the sender. The warning should reach him as if from the hand of Fate. The way was long, but she reached the desired office at last and mailed the precious roll, and as she turned to pass out she met—Col. Wellby entering.

The effect was paralyzing on poor Miss Annie. She stood still and looked at him fixedly, much to his confusion.

"What is the matter Miss Jocelyn?" he asked, taking her cold hands. "You alarm me! My cart is here; will you permit me to drive you home—or shall I get assistance?"

Miss Annie shook her head, walked with him mechanically and allowed him to place her in his cart. He drove quickly into a quiet road and began: "Do you feel better, Miss Jocelyn? It distresses me to see you troubled. I fear I startled you very much. I confess, too, that I followed you. I saw you go out early, and as I had a little matter to discuss with you I took the liberty of driving after you, hoping for the opportunity to bring you home."

"You will please pardon me," said Miss Annie. "I did not sleep well last night and walked out early, hoping to be refreshed by the morning air. You wish to speak to me?"

"Yes, if you are quite well enough. It is about your niece."

Miss Annie gave a little gasp. "I am listening."

Col. Wellby drove very slowly. "Your niece is a confiding young creature," said he. "She is in trouble, and wishing to spare you when you were unwell, as she says you have been lately, she honored me with her confidence. Your sister, though a noble young woman, hardly invites the outpourings of a young heart, I should imagine; at any rate, Miss Bettie came to me. She has a suitor three times her age, but very wealthy, who is so persistent in his attentions that she has half accepted him. Her appeal to me was for advice, and she laid his character before me. My counsel was to say 'no' most decidedly. I do not believe in such differences in age. I told her that though she was an orphan she might have the benefit of advice from as true and good a source as could be desired — from Miss Annie Jocelyn—and I thought you should be told."

The earth reeled to Miss Annie, but she articulated a faint "Thank you."

"I told her," continued the colonel, "that I had lived by you five happy years, and I respected and admired you above all other women. I told her that though still in your bloom, you had reached an age when you were capable of giving the best advice. And I concluded by saying I should like to see her spend several more years in school before she married anybody, which she promised to do."

The colonel stopped to look at Miss Annie, and she turned so radiant a face upon him that he dropped the lines and stretched out his arms toward her.

"There is much more I would like to say to you, Miss Jocelyn—Miss Annie—if you would not think me presumptuous. I have more than admired you, dear Miss Annie, for a long time, but until I contrasted you and your niece I did not properly appreciate your beautiful dignity. I love you, Miss Annie. Could you be happy as my wife?" The colonel's arms were close around Miss Annie as he said this, who found voice enough to murmur "Yes."

It was afternoon of the following day before she remembered through the mist of her happiness the magazine she had posted. It was called to her mind by the colonel appearing with it in his hand.

"I have here, my dear," he said, the August number of the —— magazine. Some friend has sent it to me, doubtless because it contains a fine article on bee culture, in which I am interested. But I had already purchased a copy. Permit me to give you this one; there may be something of interest to you in it. Shall we look at it now?"

Miss Annie grasped it with eagerness. "I am deeply interested in bees!" she exclaimed; "but, with your permission, I will look at it later. I should prefer to talk."

"And I, also," beamed the colonel.

FIRST LADY: "What New Year's present are you going to give to your husband?"

Second Lady: "A hundred cigars."

First Lady: "And what did you pay for them?"

Second Lady: "Oh, nothing! For the last two months I have taken one or two out of Jack's pocket every day. He hasn't noticed it, and will be so pleased with my selecting the right quality of cigars."—Collier's Weekly.

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The Care of a Bedroom.

There are a few little things to be done every day in every plaee where people live, things so small as to be neglected from one day to another, and at last left altogether, but whieh if done in the right way at the right time will take but a few moments, and will prevent the most disagreeable and dangerous eauses of the annual upheaval, says Good Health.

First of all there is the bedroom. On arising almost every person slips out at the side, leaving the elothing in a tumb'ed heap in the middle of the bed, whieh is in itself one of the most unsightly and diseouraging of all disorderly speetaeles.

Upon leaving the bed, every man, woman or child should throw the elothing, ineluding the upper sheet, neatly over the footboard and leave it until the toilet is nearly complete; but before putting on the outer garments (unless one really has not time for anything further), dismantle the bed entirely, hanging the elothes on hooks, doors, gas fixtures, chairs or anything that may be convenient, only so that they are spread open to the air; then before leaving the room throw the window wide open, even in winter. When the time comes for making the bed, instead of siekening odors, whieh make everything seem vile and take the courage out of the strongest, the fresh atmosphere will have given a touch of cleansing to everything in the room, and the work of putting it to rights will be robbed of the sense of drudgery.

Besides the good airing, a few deft little dabs in all the corners and around the edges, a few long sweeps of the damp eloth-eovered broom over the floor or earpet to gather up whatever of loose dirt is still hunting for a hiding plaee, a few touches of the dry broom overhead and along the walls, and your bedroom smells, tastes and feels just as sweet and fresh as it did when months ago you said with so much satisfaetion, "There, thank goodness, that is done onee more!"

A DIFFICULT FEAT.—"My friends, were the average man to turn and look himself squarely in the eyes and ask himself what he really needed most, what would be the reply?" "A rubber neek!" shouted the preeoeious urchin from the rear of the room.

LITTLE BOY: "Pa—why do they always represent Vietory as a woman?"

Pa: "When you get married one of these days, my son, you will find out."

Weak Children

How sad it is to see weak children—boys and girls who are pale and thin. They cannot enjoy the sports of childhood, neither are they able to profit by school life. They are indeed to be pitied. But there is hope for them.

Scott's Emulsion

has helped such children for over a quarter of a century.

Your doctor will tell you it is both food and medicine to them. They begin to pick up at once under its use. Their color improves, the flesh becomes more firm, the weight increases and all the full life and vigor of childhood returns again.

At all druggists; 50c. and $1.00.
SCOTT & BOWNE, Chemists, New York.

Begin With the Boys.

Boys should early be taught the heinousness of the offense of spitting, both from the basis of deeency and danger to publie health, says the Portland Oregonian. It is mueh easier to prevent the formation of a habit of this kind in a boy than to eorreet it in a man, and herein lies the mother's part in the warfare against spitting. No extension of woman's rights is neeessary to make mothers a power in this neglected realm. All that is required is return to a duty onee faithfully diseharged—but in the rush of modern life neglected—the vigilant maternal supervision of boys during the years in which their habits are formed.

The boy who is taught that to spit on the hearth, the steps—anywhere about the house—in an infringement upon the rights of the family that will not be tolerated, is not likely as a man to infringe upon the right of the publie by spitting upon the sidewalks, on the floors or steps of publie buildings or in the ears. In the meantime, however, there is a generation of full-grown, aetive spitters to be reekoned with in the interest of the publie health, and it is the opinion of those who have given eareful attention to the matter that these ean be reaehed more effectively by the dissemination of knowledge upon the subject than by city ordinanee or State law.

"MAMMA, what would you do if that big vase in the parlor should get broken?" said Tommy.

"I should spank whoever did it," said Mrs. B., gazing severely at her little son.

"Well, then, you'd better begin to get up your musele—pa broke it."

DOMESTIC ECONOMY.

Hints to Housekeepers.

To keep the kitchen pipes free from grease, mineral oil should frequently be poured down the sink.

Salt should always be washed from butter before it is used for puff paste, as it retards its rising.

A blending of two or more flavors is usually more pleasing in gelatine jelly than a single deeided one.

If eanned peas are drained and rinsed, then simmered in a little hot water, they will lose their stale, eanned taste.

Too mueh aeid in mayonnaise dressing, whether vinegar or lemon juice, injures, if it does not aetually destroy, the flavor of the oil.

It is a waste of time, strength and material to eook lavishly, as is the habit of some housekeepers, even if there be fowls to eat what is left; they may be well fed far more eheaply. Sueh waste comes from want of thought.

For dishwashing, kerosene oil has been found to form an emulsion with the grease, so that a few drops of kerosene dropped into eold or tepid water will keep knife handles from being injured, as in the ease where soap and hot water are used.

In making pastry for pies it is often diffieult to make just the right quantity needed, but if there be a surplus it need not be wasted. An exeeedingly good eook tells me that pie erust is better if made a few days before using, and sueh leftovers ought never to be wasted. In very warm weather it might not be desirable to keep it on hand, but most times of year it may be done.

Ribs of beef may be served as a flat or a standing roast. While rather more difficult to earve neatly, epieures consider that the bones eontribute flavor to the meat and prefer them left in; the small projecting piece of back bone is ehopped off, and the ribs sawed across through the center so that they may be straightened and the meat is placed in the pan with the bones underneath, thus giving both eut sides an equal chanee to brown.

A pretty bag for soiled fine handkerchiefs is made from two handkerehiefs of rather large size. The cheap lawn-embroidered ones may be selected, ehoosing the largest of the assortment. They are laid together and shirred around three sides in a half eirele, and stitehed through the shirring to leave a frill. Around the open ends, the same distanee from the top as the width of ruffle, a narrow beading is stitched on, through whieh a ribbon is run for a drawstring.

The following process will be found most effeetual in eleaning tapestry: Take four ounees of soap to a quart of water, and let the whole boil until it beeomes a jelly. Two tubs of hot water must be kept in readiness, to whieh the boiled soap is added. A handful of bran will help prevent the colors from running. After the tapestry has been washed alternately in the two tubs rinse it out in vinegar and water and dry. A thin boiled starch must be used when the tapestry is to be stiffened, and then iron quickly with a very hot iron.

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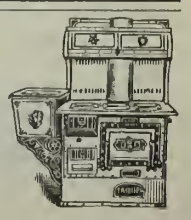
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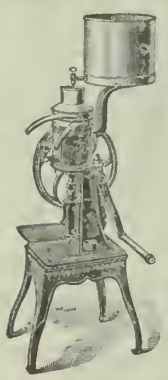
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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey, Strong & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING DECEMBER 12, 1899.

638,689.—FURNACE—J. B. Archer, Oakland, Cal.
638,904.—CIGARETTE MACHINE—A. E. Buckingham, S. F.
638,863.—ROLLER BEARING—E. C. Chatham, S. F.
638,701.—NEEDLE THREADER—H. M. Childers, Ontario, Or.
638,910.—ROTARY ENGINE—E. P. Couture, Guaiala, Cal.
639,152.—RAISIN STEMMER—C. S. Cox, Fresno, Cal.
639,205.—BEARING—G. Durnerin, Los Angeles, Cal.
638,918.—ELEVATOR—E. M. Fraser, S. F.
638,870.—WATERPROOF FLOORS, ETC.—P. H. Jackson, S. F.
639,056.—TICKET HOLDER—M. H. Jones, Nogales, Ariz.
638,729.—HITCHING HORSES—A. W. Lundberg, Interbay, Wash.
639,074.—WEIGHING MACHINE—S P. Mackey, Ridgefield, Wash.
638,875.—SKIRT MARKER—Isabel E. Malarkey, S. F.
638,876.—R. R. TRACK CROSSING—M. D. Meyer, S. F.
639,206.—PERFORATOR—A. C. Miller, Corona, Cal.
639,089.—AMALGAMATOR—I. A. Palmer, Seattle, Wash.
638,883.—DREDGER—R. A. Perry, Oakland, Cal.
638,886.—TARGET—J. Pillorget, S. F.
639,183.—RAIL JOINT—F. N. Plomondon, Matlock, Wash.
638,938.—ROCK DRILL—P. H. Reardon, S. F.
638 814.—PIPE TONGS—A. J. Sawin, Ventura, Cal.
639,101.—PRINTING ROLL PAPER—G. H. Schubert, La Porte, Cal.
638,890.—PUMP—T. J. Sparks, S. F.
639,202.—R. R. SIGNAL—W. R. Stearns, Portland, Or.
638,895.—ELECTRICAL TREE—G. H. Wallis, S. F.
639,203.—BORING MACHINE—Woodhill & Hulse, Los Angeles, Cal.

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Notices of Recent Patents.

Among the patents recently obtained through Dewey, Strong & Co.'s SCIENTIFIC PRESS U. S. and Foreign Patent Agency, the following are worthy of special mention:

ELECTRICAL TREE.—George H. Wallis, San Francisco, Cal., assignor to Washburn & Moen Manufacturing Co, of Worcester, Mass. No. 638,895. Dated Dec. 12, 1899. The object of this invention is to produce a tree-like form for illuminating display purposes. It consists in the formation of the body of a tree of submarine or similar cable, with branches formed by untwisting the wires of the cable and extending them outwardly from the body; electric lights fixed to said branches and circuit wires through which the current is supplied thereto. Rings may be supported around the body of the tree at intervals with devices by which electric lights can be suspended therefrom.

TRACK CROSSING PROTECTOR.—M. D. Meyer, San Francisco, Cal. No. 638,876. Dated Dec. 12, 1899. This invention is designed to provide a device which will make a noiseless crossing at points where two lines of track intersect each other, and to prevent the constant jar and concussion caused by the passing of the wheels over the open joints formed by such crossings. It consists essentially in the employment of supplemental supporting surfaces extending across the tracks interior to the rails and against the inner sides thereof, having a base support independent of the crossing rails. These surfaces form a support upon which the wheel flanges travel and maintain the wheel treads out of contact with the rails while passing over the transverse line. Exterior to this line, on each side, are independent extensions which are inclined so that wheels are gradually lifted on approaching the crossing and again lowered upon the rails after passing the crossing.

ROLLER BEARING.—E. C. Chatham, San Francisco, Cal. No. 638,863. Dated Dec. 12, 1899. This invention relates to anti-frictional bearings for journals and the like. It consists of rollers adapted to travel in contact with the journal or shaft, and an exterior journal box with which the exterior surface of the rollers form contact. Intermediate rollers are placed between the main ones and have their ends projecting beyond the ends of the first named rollers, and these intermediate rollers are provided with V-shaped grooves. Caps are fixed to the journal and have channels formed in them to receive the projecting ends of the intermediate rollers, and form a track therefor. Turnable rings are fitted interior to the caps, having their outer periphery shaped to fit and engage the V-shaped grooves in the ends of the intermediate rollers.

PUMP.—T. J. Sparks, Magalia, Cal., assignor of one-half to F. M. Austin, San Francisco, Cal. No. 638,890. Dated Dec. 12, 1899. This invention is designed to improve the class of pumps having a plunger reciprocating in the pump cylinder, and two sets of suction and discharge pipes, and valves connecting respectively with the opposite ends of the cylinder and discharging into a common conductor. The pump is formed with independent heads in the form of cross-couplings, a detachable cylinder connecting one head with the other, the heads of lateral extensions and enlarged valve chambers fitting to said extensions. The valve seats are also removably fitted in the extensions and located exterior to the chambers. Valves which are removable with the seats have tail extensions projecting into the chambers, and springs acting against them to insure the quick closing of the valves. Bolts pass through the walls of the chambers and of the valve seats, and detachably fix the chambers and seats to the extensions of the cross couplings. A peculiar arrangement of packing is adapted to surround the plunger rod where it passes through the stuffing box.

DEVICE FOR MAKING CIGARETTES.—A. E. Buckingham, Oakland, Cal., eleven-sixteenths assigned to W. de Pons and F. Klingeberg of same place, and H. C. Sexton and A. Castelazo, of San Francisco, Cal. No. 638,904. Dated Dec. 12, 1899. This device for easily manufacturing cigarettes and the like consists of a tube closed at one end and open at the other, having a plunger slidable therein, and a stem extending outwardly through the closed end, and a head by which it may be reciprocated, and which also serves as a lock to retain the parts in position when not in use. The tube may be filled with loose tobacco when the plunger has been withdrawn to the head, and the paper of which the cigarette is formed is rolled around the exterior of the tube, the other end being folded and closed. By then forcing the plunger outward the tobacco is pressed into the wrapper, which is simultaneously forced off the tube so that when it leaves the tube it is filled with the tobacco which is properly packed within it. The open end may then be closed over the tobacco and it is in condition for use.

DREDGER.—R. A. Perry, Oakland, Cal., assignor of one-half to the Atlantic Gulf & Pacific Co., of West Virginia. No. 638,883. Dated Dec. 12, 1899. This invention relates to improvements in dredging and excavating apparatus. It comprises a scow with a suction pump, engines and other machinery, and which is fixed by spuds driven through suitable guides or clamps into the bed of the stream, or other body of water. Upon the front of the scow is mounted a ladder, so-called, with peculiar arrangements of joints which allow it to swing up, down, and from side to side, and this ladder carries the peculiarly arranged excavators at its front, with the necessary mechanism for transmitting power from the machinery on the scow to operate them. In conjunction with these excavators is a suction pipe, also carried upon the ladder and connected with the suction pump on the scow by a peculiarly arranged joint which allows of the universal movement necessary in raising and swinging the ladder without disturbing the continuity of the connections.

WATERPROOF SIDEWALK, FLOOR, OR ROOF CONSTRUCTION.—P. H. Jackson, San Francisco, Cal. No. 638,870. Dated Dec. 12, 1899. This invention comprises a means for providing for expansion and contraction of the parts of a sidewalk, floor or roof which are subject to expansion and contraction due to atmospheric changes and to prevent the cracking of the concrete surface of the structure. It also comprises a base formed of corrugated metal plates overlapped and interlocking at the ends with supporting beams and metal bars extending parallel therewith, and means by which the bars are clamped across the overlapping ends of the seats. The filling of cementing material may be introduced between the interlocking ends of the seats to prevent the passage of water in the case of leakage from above, and a filling and surface of concrete is spread upon the corrugated plates or sheets. The upper surface of this concrete is formed with deep intersecting grooves, partially separating it into squares or other shapes, so that the upper portion may be subjected to expansion and contraction without affecting the lower portion.

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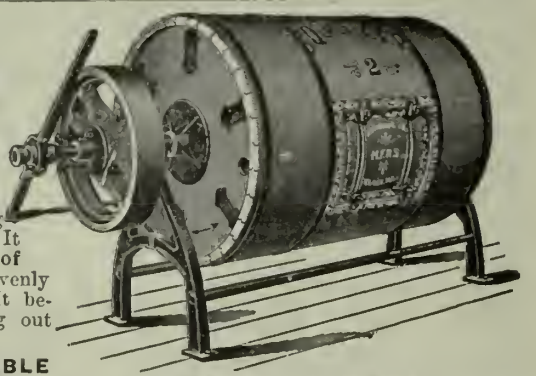
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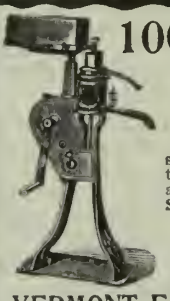
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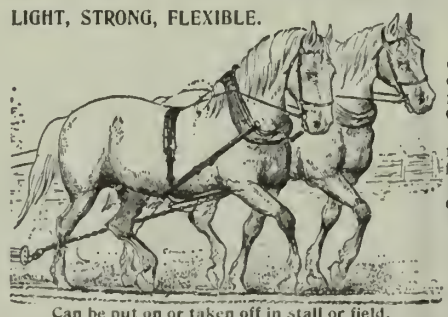
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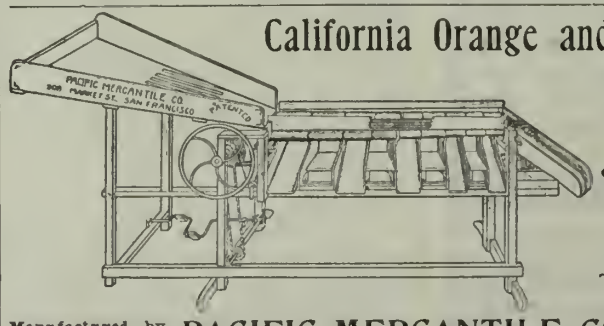
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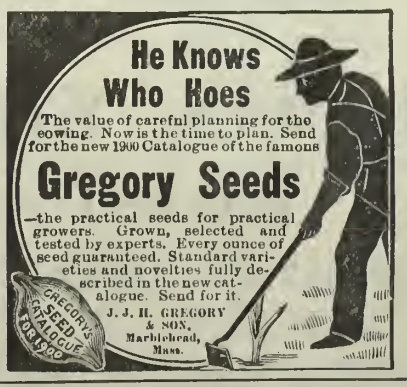
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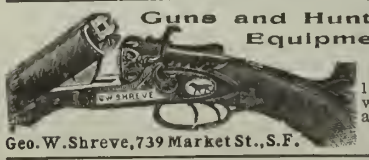
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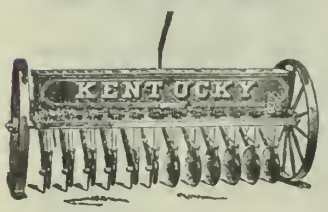
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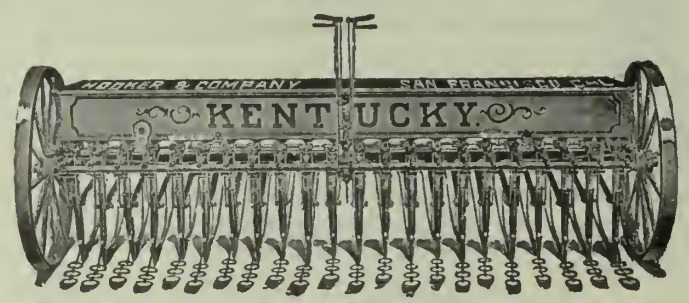
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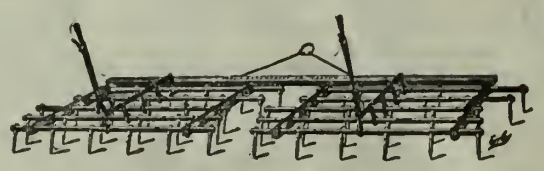
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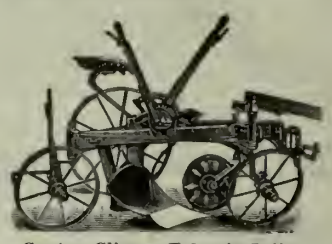
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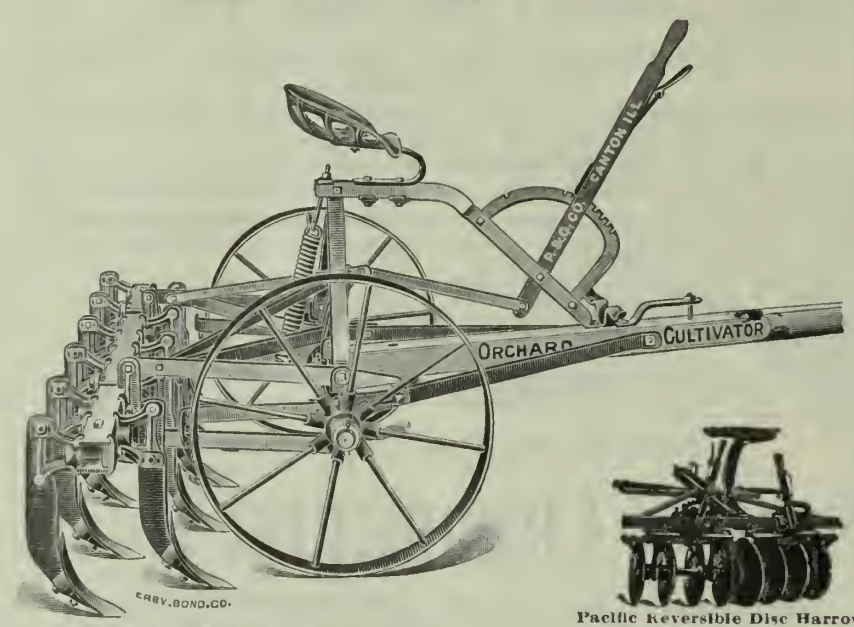
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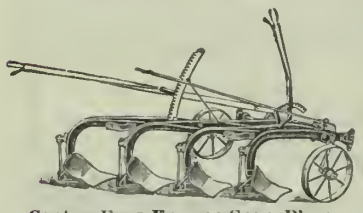

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Tuberculosis Among Belgian Cattle.

Consul Roosevelt, of Brussels, August 22, transmits the following which may be suggestive within a thousand miles of California:

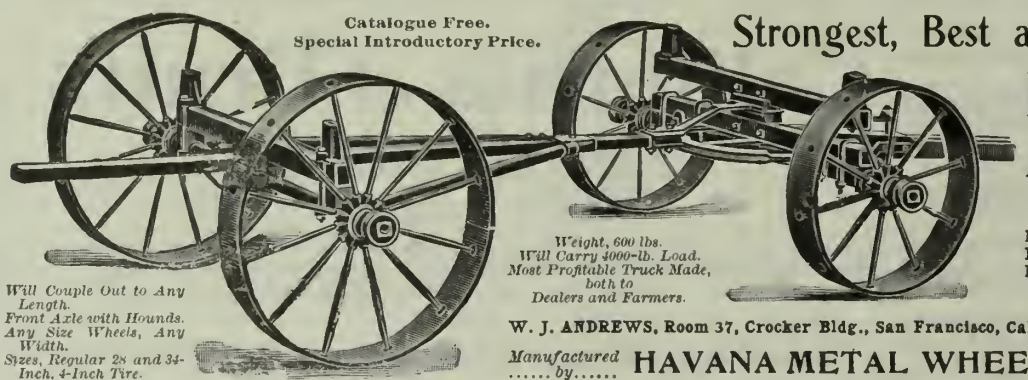
The Belgian Minister of Agriculture has invited provincial agricultural societies to make known to farmers and cattle breeders, through the medium of lecturers, notices and circulars, the means of fighting the increase of tuberculosis among cattle. Their attention is to be notably drawn to the hygiene of stables, as in many districts, especially the Campine and Ardennes, the stables are very badly kept. The peasants are afraid of leaving the doors of the stable open, on account of draughts, which they think highly injurious to the cattle, and it is difficult to make them understand that stables are contaminated when deprived of fresh air. Also, very little attention is given to cleanliness. Frequently the litter is allowed to accumulate for weeks and even months, until the unfortunate animals stand knee-deep in it. Under such conditions, it is easy to understand that such stables become propagating beds for the germs of tuberculosis. As it is difficult to make the peasants understand that upon the cleanliness of the stable largely depends the eradiction of the disease among their cattle, it has been determined to organize competition, awarding premiums to farmers taking good care of their cattle and stables.

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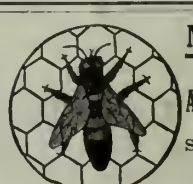

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Patrons of Husbandry.

Important Meeting of the Executive Committee.

To the Editor:—I know the members of the Grange would appreciate it if you would notice in your next number of the Grange column that there will be a meeting of the Executive Committee, Tuesday, January 2, 1900, in San Francisco. We shall meet at the Russ House. Several members have expressed a desire to be present and advise in regard to the building up of our Order.

An effort all along the line is necessary at this opportune time when the idea of co-operation is gaining ground so rapidly. There is no other organization that has the facilities of carrying out that principle so easily and effectually as the Grange in some of the Eastern States. The farmers of California have but to unite with us and thus give us force to work in harmony with the Order in the East.

G. W. Worthen, Master.

Temescal Grange.

To the Editor:—The following is a list of the newly elected officers of Temescal Grange No. 35: Master, Chas. W. Emery; Overseer, Dexter Gilbert; Lecturer, Mrs. S. H. Dewey; Steward, V. W. Still; Assistant Steward, J. M. Moore; Chaplain, Mrs. S. H. Whidden; Treasurer, L. Frink; Secretary, Mrs. N. G. Babcock; Gate Keeper, C. J. Cross; Ceres, Mrs. S. J. Cross; Pomona, Mrs. Kate McGrew; Flora, Mrs. A. Morley; Lady Assistant Steward, Mrs. Caroline E. Emery; Organist, Miss Anita M. Dewey; Trustees, Mrs. J. M. Moore and Mrs. Dexter Gilbert.

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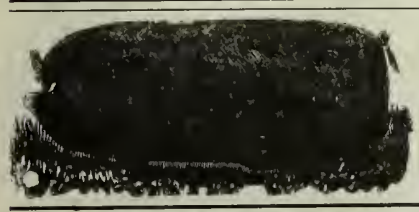
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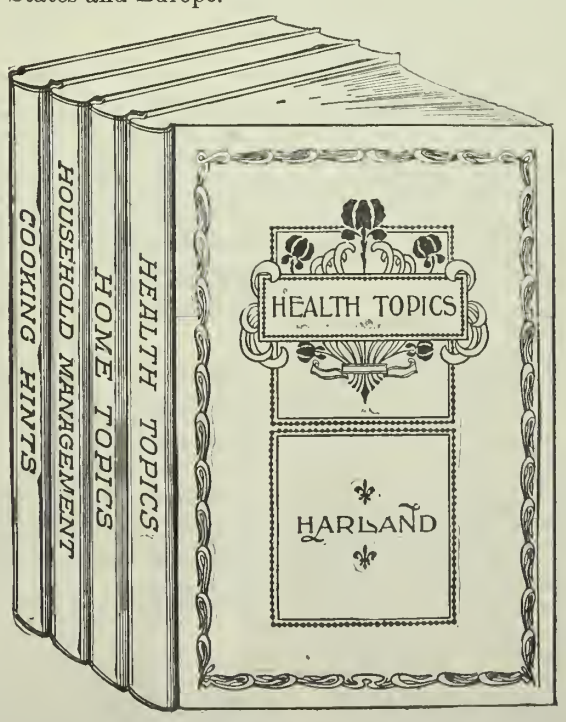
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S. F. Market Report.

Produce Market.

SAN FRANCISCO, Dec. 27, 1899.

CHICAGO WHEAT FUTURES.

Wheat futures in Chicago were as follows for the week named, price being per bushel:

	Dec.	May.
Wednesday	66⅝@65¾	70¾@69¾
Thursday	65½@66⅛	69⅝@70
Friday	65¾@66⅛	69¾@69¾
Saturday	65⅞@65½	69⅝@69⅝
Monday	*——@——	——@——
Tuesday	66 @65⅝	69¼@69¼

LIVERPOOL FUTURES.

Prices of futures on No. 2 Red Winter per cental in Liverpool were as follows for the week:

	Mar.	May
Wednesday	5s 10⅞d	5s 10⅞d
Thursday	5s 10⅝d	5s 10⅝d
Friday	5s 11 d	5s 11 d
Saturday	*-s —d	-s —d
Monday	*-s —d	-s —d
Tuesday	*-s —d	-s —d

SAN FRANCISCO FUTURES.

The range of values on San Francisco Call Board for No. 1 White wheat per cental was as follows:

	May.	Dec., 1900.
Thursday	1 05 @1 05⅝	1 10¼@——
Friday	1 06 @1 05⅝	——@——
Saturday	1 05⅝@——	——@——
Monday	*——@——	——@——
Tuesday	1 05¼@1 04¾	1 09⅜@——
Wednesday	1 05⅛@1 05⅛	——@——

*Holiday.

WHEAT.

In the local market wheat is, to all intents and purposes, in the same position as a week ago. There was very little trading, but when transfers were effected they were at practically unchanged figures. The visible supply in the United States showed an increase of 1,795,000 bushels, while for corresponding week last year there was a decrease of 1,776,000 bushels. Shipments of wheat and flour to Europe for past week show a decrease of 2,400,000 bushels. The Chicago speculative market shows a decline of about 1c per bushel, as compared with a week ago. In England there has been little doing, but the holidays there have been receiving more attention than business. On the local Call Board prices for options were only fractionally lower than a week ago. Business here in futures was of a very light order. To-day (Wednesday) noon there is a fractionally firmer market for options than was experienced yesterday.

Although the outward movement of wheat from this port continues on a light scale, as compared with most of the preceding years since the production of wheat in this State has been a noteworthy industry, the exports for this season to date are about double the quantity shipped in corresponding time the previous season. Exports of this cereal in the past six months are in round numbers 100,000 tons, while a year ago they did not quite foot up 50,000 tons. The values of the wheat cleared during the last six months of this year and last show much the same difference, although the ratio for this year is a little greater in quautity than in valuo, the figures being $2,100,000 for the past six months, and $1,243,000 for the last half of 1898. For the previous five years the smallest exports of wheat for corresponding time was in 1894, when they footed up 221,900 tons, valued at $3,904,000. The heaviest shipments for corresponding period in same five years were in 1896, when 380,000 tons were shipped, showing a valuation of $9,313,000. The shipments for last half of 1897, while about 40,000 tons less than for last six months of 1896, were of greater value, footing up $10,276,000. Two wheat clearances were made for Europe the past week, and a steamer took 550 tons for Peru. While shipments have been before made to South America, they are of rare occurrence.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 White wheat per cental for the week were as follows for the options namod:

December, 1899, delivery, $1.00@——.

May, 1900, delivery, $1.04¾@1.06.

December, 1900, delivery, $1.09⅜@1.10¼.

Wednesday, at regular noon session of Call Board, December, 1899, wheat sold at $1.00@——; May, 1900, $1.05⅛@1.05½; Dec., 1900, ——@——.

California Milling	$ 97½@1 05
Cal. No. 1 shipping, alongside	95 @ 97½
Oregon Valley	02½@1 00
Walla Walla Blue Stem	90 @1 02½
Walla Walla Club	80 @1 00
Off qualities wheat	75 @ 90

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1898-99.	1899-1900.
Liv. quotations	-s—d@-s—d	6s2d@-s—d
Freight rates	23¾@25s	35@36¼s
Local market	$1.13¾@1.16¼	$0.95@0.98¾

The prices above are for spot lots of standard No. 1 California in Liverpool and for good to choice shipping in this city.

FLOUR.

The market shows weakness, and in the matter of actual trading there is little doing. There is a fair movement outward, but it is largely of special brands previously arranged for. Quotations remain unchanged, but the cutting of rates is the order of the day when noteworthy transfers are effected.

Superfine, lower grades	$2 40@2 60
Superfine, good to choice	2 65@2 90
Country grades, extras	3 00@3 25
Choice and extra choice	3 35@3 60
Fancy brands, jobbing	3 60@3 75
Oregon, Bakers' extra	3 00@3 40
Walla Walla, Bakers' extra	3 00@3 40

BARLEY.

There have been no radical changes in values or the condition of this market since last review. Trade has been slow most of the week, and values fully as favorable to buyers as previously quoted. Two clearances of barley were made for Europe, swelliug the shipments for the season to date to 151,000 tons, boing 50 per cent more than the exports of wheat for the same period, and 20 per cent greater than the outward movement of barley for the last half of 1897, when there was a good yield and a free export movement. As the crop of 1898 was a failure, the exports were very light, footing up less than 13,000 tons for the first half of the cereal year, or from July to December inclusivo.

Feed, No. 1 to choice	77½@ 80
Feed, fair to good	65 @ 75
Brewing, No. 1 to choice	87½@ 97½
Chevalier, No. 1 to choice	1 00 @1 07½
Chevalier, No. 2	— @ —

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

Seller, 1899, new, ——@——.

May, 1900, delivery, 71½@74c.

December, 1900, delivery, 67@68½c.

Wednesday, at regular noon sessiou of the Call Board, Jan., 1900, feed sold at 71c; May, 72½@73.

OATS.

Spot supplies are of fair proportious, but are largely of ordinary or defective qualities. There is only a moderate amount of trading, but at generally unchanged values, with market firm for choice to select of every variety, unless it be blacks, these being in rather poor request at present. The market on common qualities of whites, grays and reds inclines against sellers.

White Oats, fancy feed	1 25 @ —
White, good to choice	1 15 @1 22½
White, poor to fair	1 07½@1 12½
Gray, common to choice	1 10 @1 20
Milling	1 15 @1 25
Surprise, good to choice	1 20 @1 30
Black Russian	95 @1 07½
Red	95 @1 20

CORN.

Moderate quantities of domestic product have been received this week, the first of any consequence this season. Eastern is still coming forward in moderate fashion, but goes mainly to millers direct as deliveries on previous purchases. While the market cannot be termed particularly firm at the current quotations, buyers as a rule find it difficult, if not impossiblo, to obtain material concessions in their favor.

Large White, good to choice	1 05 @1 10
Large Yellow	1 05 @1 10
Small Yellow	1 40 @1 50
Eastern Mixed	1 02½@1 07½

RYE.

Not much offering, neither is the demand brisk at full current rates. Quotable values the samo as last noted remain in force.

Good to choice, new	1 02½@1 05

BUCKWHEAT.

In consequenco of littlo or nothing doing, values are not clearly defined. On buying orders, however, full current quotations or more would have to be paid.

Good to choice	2 00 @2 10
Silverskin	— @ —

BEANS.

Not much doing in beans of any sort, nor is there likely to be any special movement outward for some weeks to come. To have it otherwise than quiet at present in the bean market would be much like being surprisod with a California rainstorm in mid-summor. Whilo trade is very light, buyers are uot able to purchase to auy better advantage than a fortnight or more ago, when business was not of such a slow order as at present. Holders are not worrying over the future, so far as good to choice stock is concerned. Seriously defective qualities are not being sought after at any figure by regular buyers, and such beans are not quotable.

Pea, fair to good, 100 lbs	2 75 @3 00
Small White, good to choice	2 75 @3 00
Lady Washington	2 25 @2 40
Butter, small	3 75 @4 00
Butter, large	—— @——
Pinks	2 50 @2 75
Bayos, good to choice	3 25 @3 50
Reds	3 75 @4 00
Red Kidneys	3 00 @3 50
Limas, good to choice	4 85 @5 00
Black-eye Beans	4 50 @4 75
Horse Beans	—— @—
Garbanzos, large	2 50 @2 75
Garbanzos, small	2 00 @2 25

Advices by recont mail from New York give the following review of the bean market, prices quoted being per 60-lb. bushel:

The general features of the market have not changed much in the week now closing. Business has been of rather small volume, exporters drawing only a few orders aud the local and out-of-town jobbing trade keeping thoir purchases down to the lowest point in order to turn the year with light stocks. Under some conditions the dullness would have resulted in pressuro to sell and some cutting of prices; but farmers seem to have an appreciation of the smallness of the domestic and Canadiau crop, and they are in no hurry about marketing their stock. This gives us much lighter receipts than are usual at this season of year, and in that fact is found the chief support of the present position. Choice old Marrow havo worked along slowly at $2.20 generally, an occasional lot being shaded 2½c, while only the very best new have reached $2.15, some of the well known packers offering $2.10. No further lots of foreign Marrow have arrived, but 500 bags are close by; tho last receipts were mostly taken for export in bond. Medium are now only a little above Pea, in fact, sales above $2 are becomiug rare. These varieties are feeling the influence of the foreign stock that is now in transit and which can be sold at less price. Red Kidney have had light sales, and, while $2.30 is generally asked, one or two orders were filled at $2.27½. Domestic White Kidney exceedingly scarce and higher; part of the shipping trade has recently been filled with foreign. Eastern buyers have continued to call for Yellow Eye and the market is firm at $2.25. Turtle Soup dull. California and Lima moving slowly at $3.30@3.35 and feeling a little unsettled; tho demand for them is affected by the sales of German Runners aud Giants, the latter selling on the docks at $2.60@2.65—a lot of 1248 bags (88 pounds) arrived this week from Hamburg. Very light trading in both green and Scotch peas.

DRIED PEAS.

Market is lightly stocked with both the Green and Niles varieties, but more particularly tho latter. For desirable qualities values are boing well sustained at the prevailing quotations.

Green Peas, California	2 10 @2 25
Niles Peas	2 10 @2 25

WOOL.

There has been less activity in wool in this couter during the past week or ten days than for many weeks preceding. This is partly due to the recent stringency in the money market East, causing manufacturers to postpone purchasing until money affairs in Eastern financial circles again assume normal conditions. Stocks remaining in store and warehouse are not heavy and do not afford much opportunity for selections, which is another cause for the market being quiet at present. Values are no lower, however, than previously quoted, and are not likely to be during the balance of the season.

SPRING.	
Oregon Eastern, choice	13 @16
Oregon Eastern, fair to good	11 @13
Oregon Valley	17 @20
FALL.	
Humboldt and Mendocino	16 @17½
Middle Counties, defective	9 @12
Northern, free	11 @14
Northern defective	9 @11
Southern Mountain	9 @11
San Joaquin Plains	—@—
San Joaquin Lamb	—@—

HOPS.

The local market is showing the same absence of activity aud lack of strength as for some weeks past, with poor prospects of there being any change for the better as tho season advances. Fancy qualities are virtually out of market, and this is the only sort inquired for. These high-grade hops are probably wanted more in a speculative way than otherwise, as they would be tolerably safe stock to carry at prevailing low rates. Of fair to good medium qualities there is a superabundance, both in first and second hands, and the market for such hops drags at low and irregular prices.

Good to choice, 1899 crop	6 @ 9

The following information, of interest to those engaged in the hop industry, is from a New York authority and comes through by recent mail:

Of the week's receipts, about 3260 bales were in transit for export, some from this State, but the bulk from the Pacific coast. Business has been of somewhat smaller volume this week, and the tendency of values has been downward, especially on inferior to good grades, which comprise so large a part of this year's crop. Strictly choice hops are relatively scarce and are inquired for by exporters to an extent that takes the stock up closely; indeed, more of that high grade could be sold for shipment than are available. London has shown firmness on top qualities, and, having so few of these in the home crop, English buyers are seeking supplies here. A fair trade is still in progress with brewers, but dealers are uot pleased with the general quality of the hops, and they are disinclined to carry usual stocks. The greatest drawback to the marketing of this year's product is the dirty picking. We have rarely seen so general complaint on this line, and some of the worst picking was in the best sections. During tho last half of tho week most of the country markets were reported quieter; the bulk of the fine hops seem to have been picked up, and the lower figures now realized are chiefly because of poorer qualities.

HAY AND STRAW.

The general condition of the hay market is in the same unsatisfactory shapo for the producing and selling interest as previously quoted. Very little hay is required to accommodate the immediate demand. Small as are the present arrivals however, averaging little over 300 tons per day, they are proving greater than can be readily or conveniently placed. For most select Wheat hay $10 per ton is an extreme not warrantod as a quotation.

Wheat	7 00@ 9 50
Wheat and Oat	7 00@ 9 00
Oat	6 50@ 8 50
Barley	6 00@ 7 00
Alfalfa	5 00@ 7 00
Timothy	—@—
Compressed	7 00@ 9 50
Straw, ₱ bale	30@ 45

MILLSTUFFS.

Quotable rates in the main are in same position as last noted, with market as a whole weak, and inclining ospecially in favor of buyers for Bran and Rolled Barley, prices for these showing reduction.

Bran, ₱ ton	12 00@13 00
Middlings	15 00@18 00
Shorts, Oregon	12 00@14 50
Barley, Rolled	16 50@17 00
Cornmeal	23 50@24 00
Cracked Corn	24 50@25 00

SEEDS.

Stocks of most kinds aro at present so insignificant that little more than a peddling trade is possible. Quotations remain in same position as last recorded, with values largely nominal.

	Per ctl.
Mustard, Trieste	3 25@3 50
Mustard, Yellow	4 50@4 75
Flax	2 00@2 25
	Per lb.
Canary	3½@4
Rape	2 @3
Hemp	4 @4½
Timothy	4 @4½
Alfalfa, Utah	8 @9

BAGS AND BAGGING.

In spot goods in this line there is virtually nothing doing and few changes to report in prices. In Calcutta Grain Bags for next season's delivery, there is stated to be some trading at about 6¼c. ex-ship, buyer June-July. Wool Sacks are higher.

Calcutta Grain Bags, buyer June-July	6¼@—
Calcutta Grain Bags, spot	6½@—
San Francisco Grain bags, 22x36, spot	6½@—
State Prison bags, per 100	—@—
Wool sacks, 4 lb	—@32½
Wool sacks, 3½ lb	—@28½
Fleece Twine	7½@—
Gunnies	—@12½
Bean bags	4½@ 5¼
Fruit sacks, cotton	6½@ 7¼

HIDES, PELTS AND TALLOW.

Thero is little abatement of strength in the Hide market, and not likely to be much for months to come, the receipts being light. Pelts are in fair request at previously comparatively stiff figures. Tallow is without quotable change, but under matorially increased offerings, current values could not be maintained.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	11½@—	10½@—
Medium Steers, 48 to 56 lbs	10½@—	9½@—
Light Steers, under 48 lbs	10 @—	9 @—
Heavy Cow Hides, over 50 lbs	10½@—	9½@—
Light Cow Hides, under 50 lbs	10 @—	9 @—
Wet Salted Kip	10 @—	9 @—
Wet Salted Veal	10 @—	9 @—
Wet Salted Calf	11 @—	10 @—
Dry Hides	18 @—	14 @—
Dry Kip and Veal, 11 to 16 lbs	17 @—	13 @—
Dry Calf, under 4 lbs	18 @—	15 @—
Salted Horse Hides, large	2 50 @ —	
Salted Horse Hides, medium	2 00 @ —	
Salted Horse Hides, small	1 00 @ —	
Dry Horse Hides, large	2 00 @ —	
Dry Horse Hides, small	75 @1 00	
Dry Colts' Hides	50 @ 75	
Pelts, long wool, per skin	1 00 @1 25	
Pelts, medium, per skin	70 @ 90	
Pelts, short wool, per skin	35 @ 60	
Pelts, shearling, per skin	20 @ 35	
Deer Skins, best summer	27½@ 30	
Deer Skins, good medium	20 @ 22½	
Deer Skins, thin winter	— @ 10	
Elk Hides	10 @ 12	
Tallow, good quality	4½@ 5	
Tallow, No. 2	4 @ 4½	
Goat Skins, perfect	30 @ 37½	
Goat Skins, damaged	10 @ 20	
Kid Skins	5 @ 10	

HONEY.

As stocks aro of slim volume, business is

necessarily of light proportions. Market is firm at current rates. Comb honey is in relatively better supply than extracted, the former having to depend mainly on local custom for an outlet.

Extracted, White Liquid	7½	@	8
Extracted, Light Amber	7	@	7½
Extracted, Amber	5	@	5½
White Comb, 1-lb frames	11½	@	12½
Amber Comb	8	@	10

BEESWAX.

There is no lack of demand at current rates, which are being well maintained. A shipment of 7,874 lbs. went forward for Germany via Panama steamer.

Good to choice, light, ₱ lb	26	@	27
Dark	24	@	25

LIVE STOCK AND MEATS.

Beef was in fair request and market ruled steady, especially for choice to select, with sales of the latter above quotations. Veal was in light supply and high. The advance last quoted on Mutton and Lamb was not sustained. Hog market showed firmness for the small and medium sizes, arrivals of which were not excessive.

Beef, 1st quality, dressed, net ₱ lb	7	@	7½
Beef, 2d quality	6½	@	6¾
Beef, 3d quality	6	@	6½
Mutton—ewes, 6½@7c; wethers	7	@	7½
Hogs, hard grain fed, medium	5⅝	@	5¾
Hogs, small, fat	5⅝	@	5¾
Hogs, large hard	5	@	5¼
Hogs, acorn-fed	—	@	—
Hogs, feeders	5	@	5½
Hogs, country dressed	5¾	@	6
Veal, small, ₱ lb	8	@	10
Veal, large, ₱ lb	8	@	9
Lamb, spring, ₱ lb	8½	@	9

POULTRY.

Despite very liberal receipts of Eastern poultry the past week, aggregating about seven cars of live poultry and about same quantity of Dressed Turkeys, better average prices were realized than for some weeks preceding. Dressed Turkeys were especially in good request, select California selling up to 22c. Sales of Eastern Dressed Turkeys were mainly within range of 15@18c. During the past few days Turkey values have been easier, but market for young chickens, Fryers and Broilers, closed strong.

Turkeys, Dressed, ₱ lb	16	@	18
Turkeys, live hens, ₱ lb	14	@	16
Turkeys, live gobblers	14	@	16
Hens, Cal., ₱ doz	3 50	@	4 50
Roosters, old	3 50	@	4 00
Roosters, young, (full-grown)	4 00	@	5 00
Fryers	4 00	@	4 50
Broilers, large	4 00	@	4 50
Broilers, small	3 25	@	3 50
Ducks, ₱ doz	4 50	@	5 50
Geese, ₱ pair	1 75	@	2 00
Goslings, ₱ pair	1 75	@	2 00
Pigeons, Old, ₱ doz	1 00	@	—
Pigeons, Young	2 00	@	2 50

BUTTER.

Market for choice to select fresh was in tolerably good shape for the selling and producing interests, there being a very good demand on account of the holidays and no very heavy stocks of this description. The output of the Del Norte and Humboldt section is on the decrease. Arrivals from near by points were of fair volume, but the proportion of choice was light. Market for defective grades was dull and weak.

Creamery extras, ₱ lb	24	@25
Creamery firsts	23	@24
Creamery seconds	22	@23
Dairy select	22½	@23½
Dairy seconds	18	@21
Dairy, soft and weedy	—	@—
Mixed store	14	@16
Creamery in tubs	18	@21
Pickled Roll	—	@—
Firkin, Cal., choice to select	19	@22
Firkin, common to fair	16	@18

CHEESE.

Values are being well maintained, and especially is the market firm for high-grade new, just a few weeks from the press, cheese of latter description being in exceedingly light stock. Supplies of new are likely to be of slim volume for several months to come.

California fancy flat, new	12	@—
California, good to choice	10½	@11½
California, fair to good	10	@11
California Cheddar	—	@—
California, "Young Americas"	10½	@12½

EGGS.

Arrivals of fresh California were far from being heavy, the season having not yet fairly opened, and tho cold weather being unfavorable for hens laying. Being Christmas week, the demand was better than ordinarily and values were moderately firm, although receivers were as a rule anxious to keep stocks cleaned up, having no faith in the future of the market. Cold storage eggs remained plentiful and cheap.

California, select, large white and fresh	34	@36
California, select, irregular color & size	30	@32½
California, good to choice store	25	@29
Eastern, as to section and grading	20	@25
Eastern, cold storage	17	@20

VEGETABLES.

What are ordinarily denominated Spring vegetables, such as Peas, String Beans, Egg Plant, Rhubarb and the like, were in very light receipt and mostly from the Los Angeles section. Good figures were as a rule realized for choice qualities. In the market for Winter vegetables now offering there were no particular changes. Onions in prime to choice condition were not plentiful. Squash and Pumpkin were in light supply.

Beans, String, ₱ lb	5	@	7
Beans, Lima, ₱ lb	—	@	—
Cabbage, choice garden, ₱ 100	50	@	—
Cauliflower, ₱ doz	50	@	—
Cucumbers, Los Angeles, ₱ box	1 00	@	—
Egg Plant, ₱ lb	15	@	20
Garlic, ₱ lb	5	@	6
Mushrooms, Buttons, ₱ lb	—	@	—
Mushrooms, wild, ₱ box	—	@	—
Okra, Green, ₱ box	—	@	—
Onions, Yellow, Cal., good to choice	90	@	1 25
Onions, Oregon, ₱ cental	1 00	@	1 30
Peas, Sweet, Garden, ₱ lb	4	@	6
Peppers, Green Chile, ₱ lb	3	@	5
Peppers, Bell, ₱ large box	—	@	—
Rhubarb, ₱ box	1 00	@	—
Squash, Marrowfat, ₱ ton	—	@	—
Squash, Summer, ₱ box	1 25	@	1 40
Tomatoes, Los Angeles, ₱ crate	1 25	@	1 50
Tomatoes, Bay, ₱ box	—	@	—

POTATOES.

Much the same conditions prevailed in the potato market as during preceding week. There was a very fair demand for best qualities of Burbanks, with no heavy stocks of this sort, and values were as well sustained as previously noted. Poor potatoes were badly neglected and there were tolerably heavy quantities of the same offering. Sweets were in increased supply, with demand not very brisk at full current rates.

Burbanks, River, ₱ cental	70	@	95
Burbanks, Bay counties, ₱ ctl	—	@	—
Burbanks, Humboldt	70	@	1 10
Burbanks, Oregon	65	@	1 10
River Reds	—	@	—
Burbanks, Salinas, ₱ cental	1 00	@	1 25
Early Rose	85	@	95
Garnet Chile	1 00	@	1 15
Sweet River, ₱ cental	—	@	—
Sweet Merced	1 25	@	1 35

The Fruit Market.

FRESH FRUITS.

The display of deciduous fruits is now confined almost wholly to apples. There is no scarcity of this particular kind, but stocks are largely of fair to medium grades, running mainly to Pippins and light colored varieties, while the most pressing demand is for choice red apples. The latter sell to decidedly best advantage, and is the only sort for which the market displays firmness. Fancy Spitzenberg are scarce and in a small way are salable above quotable rates. Transactions in common to fairly choice apples, however, are as a rule within range of quotations, and are fully or more apt to be slightly under full figures quoted than at top prices. Lady apples have about seen their day for the current season, and with little or no demand for them for ornamentation from this time forward, they will have to sell down on a par with other fruit, necessitating their going at decidedly lower figures than they have lately commanded on holiday accounts. Persimmons are in fair supply, but are not meeting with much custom, and prices for this fruit are at present and have been most of the season at discouragingly low levels for the producers. Pears and Grapes are still to be seen on market in small quantity, but are not quotable, being wholly from stocks in cold storage. Cranberries are inclining in favor of the buyers, Eastern being quoted at $6@8 per barrel, and Oregon at $1.50 per bushel box.

Apples, fancy, 4-tier box	1 00	@	1 25
Apples, good to choice, ₱ 50-lb. box	75	@	90
Apples, common to fair, ₱ 50-lb. box	35	@	60
Apples, Lady, ₱ box	50	@	1 25
Grapes, Black, ₱ crate	—	@	—
Grapes, Muscat, ₱ crate	—	@	—
Grapes, Tokay, ₱ box, —@—c; ₱ crate	—	@	—
Grapes, Cornichon, ₱ crate	—	@	—
Grapes, Isabella, ₱ crate	—	@	—
Pears, Winter Nelis, ₱ box	—	@	—
Pears, cooking varieties, ₱ box	—	@	—
Persimmons, ₱ 2-layer box	25	@	50
Plums, ₱ box	—	@	—
Pomegranates, ₱ box	—	@	—
Quinces, ₱ box	—	@	—
Raspberries, ₱ chest	—	@	—
Strawberries, Longworth, ₱ chest	—	@	—
Strawberries, Large, ₱ chest	—	@	—
Whortleberries, ₱ lb	—	@	—

DRIED FRUITS.

Considering that we are in December and the last days of the year, a usually exceedingly dull time in the cured and evaporated fruit trade, values are being in the main very well sustained. There is also more doing than is generally experienced during this ordinarily inactive period. Eastern buyers have been on the hunt for cheap peaches and have about cleaned the market of everything obtainable at 6c and under. Prunes, other than the very large sizes, continue in request for export. Never before has this fruit sold at such wide and irregular prices, entirely at variance with the customary ratio of values, than during the current season. Germany has been a free buyer of the 70-80 Prune and has crowded the price up to 3¼c flat, being still a purchaser at this figure, which is on a 3c basis for the four sizes, while the 40-50 Prune is obtainable at 4c, being on a 2½c basis for the four sizes, and is receiving scarcely any attention. Apples are offering more freely, with market quiet and weak, in sympathy with easier values East and an inactive market on the Atlantic side. Figs are dragging; current quotations represent little more than asking figures and could not be realized on selling pressure. Imported Figs have been crowded on the trade East at lower prices than are current on the domestic product. Apricots are in such light supply that values are little more than nominal for this fruit at present date. Pears are in very moderate supply, especially high-grade stock, and are quite steadily held.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	10½	@	12
Apricots, Royal, fancy	12½	@	13
Apricots, Moorpark	13	@	15
Apples, in 50-lb. boxes, rings, pressed, fancy	7½	@	—
Apples, 50-lb. boxes, rings, pressed, good to choice	6	@	7
Figs, White, fancy pressed	6½	@	7½
Peaches, unpeeled, good to choice	6	@	7
Peaches, unpeeled, fancy	7	@	7½
Peaches, peeled, in boxes	12	@	15
Pears, unpeeled Bartletts, halved, fancy	9	@	10
Pears, halved, unpeeled Bartletts	6½	@	8
Pears, quartered, unpeeled Bartletts	6½	@	7½
Plums, Black, pitted	6½	@	7½
Plums, White and Red, pitted	7	@	8
Prunes, in sacks, 40—50's	4	@	4½
50—60's	3½	@	3¾
60—70's	3¼	@	—
70—80's	3¼	@	—
80—90's	3	@	—
90—100's	2½	@	—
110—130's	2	@	—
Prunes in boxes, ½c higher for 25-lb boxes, ¼c higher for 50-lb boxes.			
4 sizes Santa Claras and equal	2¾	@	—
4 sizes San Joaquin and Northern	2¼	@	2½
Prunes, Silver	4	@	7

Advices by late mail from New York furnish the following review of the dried fruit market in the East;

Evaporated apples have been in good demand, exporters taking a good many, and, with light offerings, market has strengthened somewhat in tone, though the weak advices from primary sections have prevented prices making any advance. Some business in the interior is reported at 6½@6¾c for prime, but for spot goods 6⅞@7c is generally obtained, with jobbing sales higher; choice and fancy in light supply and jobbing fairly within ranges quoted. Sun-dried sliced apples have continued dull at 5@5½c for average offerings, though fancy are held up to 5¾@6c; quarters have had a good export demand and have ruled firm at 5@5¼c generally for Southern and 5½@6c for State and Western, though latter figure is extreme; fancy Southern would command more than quoted. Chops dull and weak, with waste also showing a decline, and outside figures rule extreme at the close. Small fruits scarce and high, but only a limited trade passing. California fruit continues in good jobbing demand.

Apricots, Cal. Moorpark, 1899, per lb	15	@	17½
Apricots, Cal. Royal, 1899, per lb	13	@	14
Peaches, Cal., 1899, peeled, per lb	18	@	22
Peaches, Cal., 1899, unpeeled, in boxes, lb.	8	@	9
Peaches, Cal., 1899, unpeeled, in bags, lb.	7½	@	8¾
Prunes, Cal., 1899, per lb.	3½	@	7

RAISINS.

Values are being maintained by the Growers' Association at previously quoted range. Supplies of Sultanas are practically exhausted, leaving a number of unfilled orders in the hands of packers. Stocks of raisins held by growers are estimated at from 225 to 250 carloads, about 75% being Orientals, the balance being made up of Pacifics and two and three crown layers.

COMMON SUN-DRIED.

Apples, sliced	4	@	5
Apples, quartered	4	@	5
Figs, Black	3	@	4
Figs, White	—	@	—
Peaches, unpeeled	—	@	—

F. O. B. FRESNO DELIVERY.

London Layers, 6-crown, ₱ box	$3 00	@	—
Do do 5-crown, ₱ box	2 50	@	—
Do do 4-crown, ₱ box	2 00	@	—
Do do 3 crown, ₱ box	1 60	@	—
Do do 2-crown, ₱ box	1 50	@	—
Valencia layers, ₱ 20-lb box	80	@	1 00
(Usual advance for fractions.)			
Loose Muscatel, 4-crown, ₱ lb	7	@	—
Loose Muscatel, 3-crown	6¼	@	—
Loose Muscatel, 2-crown	5½	@	—
Loose Muscatel, seedless	5	@	—

Pacifics.—2-crown loose Muscatel, 5¼c; 3-crown, 6c; 4-crown, 6½c; seedless, 4¾c.

Orientals.—2-crown loose Muscatel, 4¾c; 3-crown, 5½c; 4-crown, 6c.

(Above prices for loose raisins are for 50-lb. boxes.)

Thompson Seedless.—Bleached fancy, ₱ lb., 10c; choice, 9c; standard, 8c; prime, 6c. Unbleached, 6c.

Sultanas.—Bleached fancy, ₱ lb., 8½c; choice, 7½c; standard, 6½c; prime, 5c. Unbleached, 5c.

Loose Valencias.—Fancy, ₱ lb., 5½c; choice, 4½c; standard, 3½c.

Valencia Clusters.—Fancy, ₱ lb., 7c; choice, 6c; standard, 5c.

CITRUS FRUITS.

Stocks of Oranges are liberal, with the movement slow, in consequence of frosty weather most of the time since last review. Quotable rates show reduction. In a small way occasional sales are made at a moderate advance on these figures. The Lemon market is quiet and devoid of noteworthy firmness, although in the matter of quotations there are no changes to record. Limes are held as last quoted, with movement slow.

Oranges—Navels, ₱ box	1 25	@	2 00
Cal. Seedlings	65	@	1 25
Cal. Tangerine, ₱ box	75	@	1 25

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Grape fruit, ₱ box	1 00	@	2 00
Lemons—Cal., select, ₱ box	3 00	@	3 50
Cal., good to choice	2 00	@	2 50
Cal., common to fair	1 00	@	1 50
Limes—Mexican, ₱ box	4 00	@	4 50
Cal., small box	75	@	1 25

NUTS.

With the holiday trade over, there is nothing of consequence doing in Almonds or Walnuts, and for remaining offerings the market inclines in favor of buyers. Shelled Almonds are still in tolerably heavy supply. Peanuts are in light stock, both domestic and Eastern, and market is firm at the quotations.

California Almonds, shelled	17	@	20
California Almonds, paper shell, ₱ lb	11	@	12
California Almonds, soft shell	10	@	11
California Almonds, hard shell	6	@	7
Walnuts White, paper shell	—	@	—
Walnuts White, soft shell	10	@	11
Walnuts White, Cal., standard	9	@	10
Chestnuts, Cal. Italian	9	@	10
Peanuts, Cal., fair to prime	5	@	5½
Peanuts, Eastern hand-picked	6	@	6¼
Pine Nuts	5	@	6

WINE.

Business in the wholesale wine market is practically at a standstill, and is likely to remain stagnant for at least a few weeks to come. Quotable values remain nominally as before, 15@20c per gallon for dry wines from one to three years old, San Francisco delivery. Values on 1899 wine have not yet been established. Shipments by sea from this port in November were 262,915 gallons and 668 cases, value $89,248. In November, 1898, the shipments were 302,815 gallons and 1,192 cases, value $115,692, showing a decrease for last month of 39,900 cases, 524 gallons, and $26,444. In November, 1897, shipments by sea were 634,815 gallons and 495 cases, valued at $216,020.

Produce Receipts.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	165,747	2,790,116	2,469,638
Wheat, ctls	202 352	2,314,912	1,582,823
Barley, ctls	24,705	3,718,259	899,240
Oats, ctls	21,985	511,511	472,850
Corn ctls	7,610	71 895	89,620
Rye, ctls	....	81,587	17,105
Beans, sks	5,484	281,885	281,173
Potatoes, sks	20,408	619,019	634,702
Onions, sks	4,906	114,677	114,487
Hay, tons	1,957	92,527	79,315
Wool, bales	263	35,120	28,870
Hops, bales	262	7,361	10,561

EXPORTS BY SEA.

FOR THE WEEK.		Since July 1, '99.	Same Time Last Year.
Flour, ¼-sks	98,028	1,683,475	1,561,724
Wheat, ctls	185,366	1,938,104	828,095
Barley, ctls	60,186	2,975,623	255,032
Oats, ctls	118	23,894	12,944
Corn, ctls	133	8,814	9,681
Beans, sks	179	1^,177	68,996
Hay, bales	969	53.415	36,085
Wool, lbs	...	3,199,960	1,306,072
Hops, lbs	55,275	612,046	1,038,738
Honey, cases	11	3,206	4,433
Potatoes, pkgs	132	40,322	27,624

California Dried Fruit at New York.

NEW YORK, Dec. 27.—California dried fruits; Business of a light order. Evaporated apples, common, 6@6¼c; prime wire tray, 6¾@7c; choice 7¼@8¼c; fancy, 8½@9c.

Prunes, 3½@8c.

Apricots, Royal, 13@15c; Moorpark, 15@18c.

Peaches, unpeeled, 7½@10c; peeled, 20@22c.

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